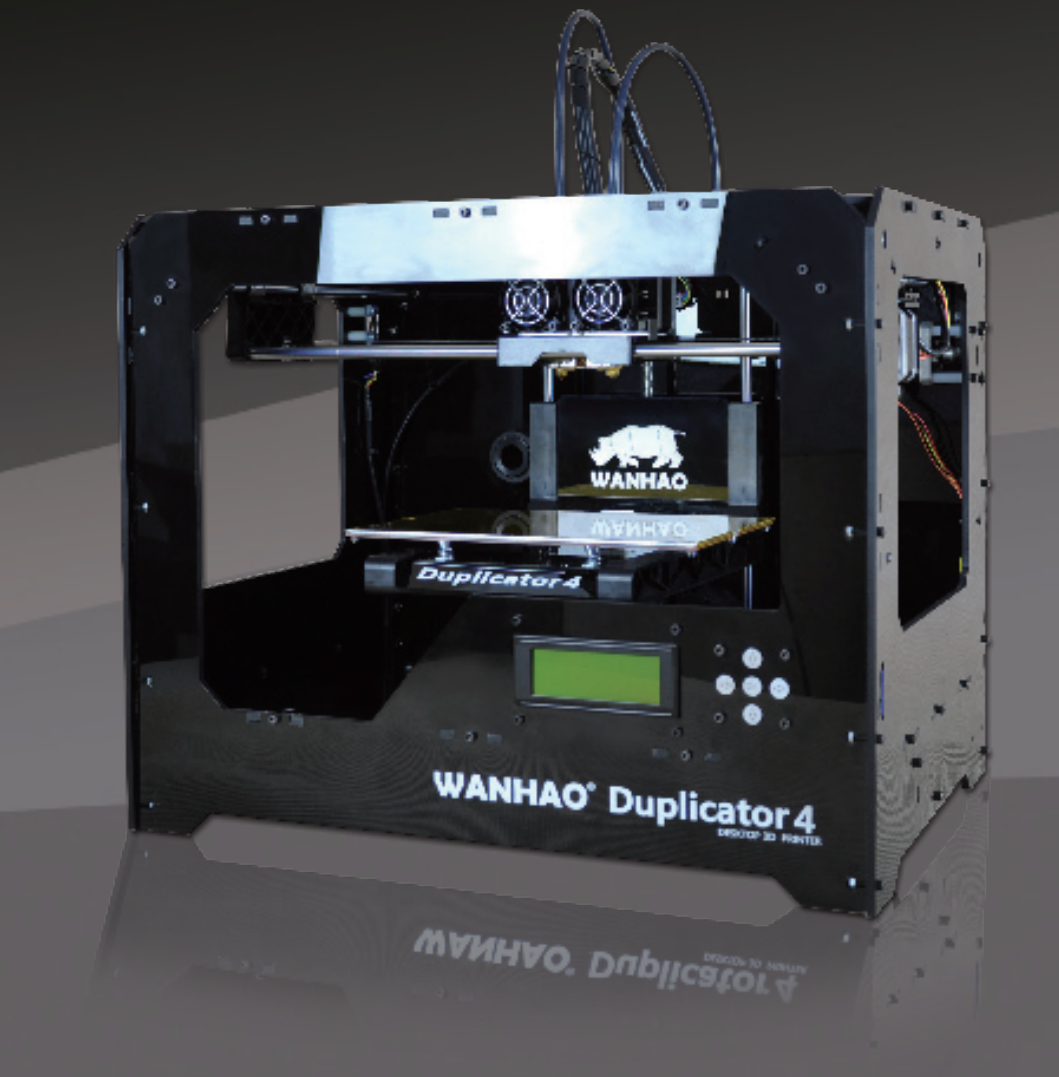
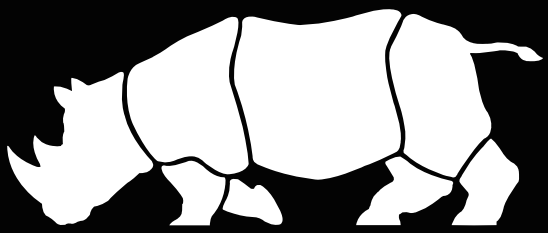
WANHAO

Duplicator 4/4x

Desktop 3D Printer

USER MANUAL





WANHAO

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WANHAO

WANHAO
WELCOME
Let's get started

This User Guide is designed to start your journey with the WANHAO Duplicator 4/4x Desktop 3D Printer in the right direction. Even if you are familiar with earlier WANHAO machines. it is essential that you read through this guide, as there are several important and exciting updates with the WANHAO Duplicator 4/4x.

In chapter A and B, you will learn the basics of the WANHAO Duplicator 4/4x, how to unbox safely,and how to get set up. Chapters C~E will take you though leveling, printing, maintenance, and troubleshooting,

WANHAO is excited to welcome you to the world of the WANHO Duplicator 4/4x. Following this guide will help ensure that you are getting the most out of your machine, and that you continue to make amazing things,

WARNING: The WANHAO Duplicator 4/4x generates high temperatures and includes moving parts that can cause injury. Never reach inside the WANHAO Duplicator 4/4x while it is in operation. Always allow the WANHAO Duplicator 4/4x to cool down before reaching inside.

WARNNING: Do not leave the WANHAO Duplicator 4/4x unattended during operation.

CAUTION: If opening the WANHAO Duplicator 4/4x for service, ensure that the power supply is turned off and the cord is disconnected.

SPECIFICATIONS

PRINTING

Print Technology:	FDM Technology
The Max Printing Size:	22.5*14.5*15cm
Layer Resolution:	High 100 microns {0.0039 in}
	Medium 270 microns {0.0106 in}
	Low 340 microns {0.0133 in}
Positioning Precision:	XY : 11 microns {0.0004 in}
	Z : 2.5 microns {0.0001 in}
Filament Diameter:	1.75mm {0.069 in}
Nozzle Diameter:	0.4mm {0.015 in}

TEMPERATURE

Ambient Operating Temperature:	15° – 32° C [60° – 90° F]
Storage Temperature:	0° – 32° C [32° – 90° F]

PHYSICAL DIMENSIONS

Without Spool:	47*32*38 cm
With Spool:	47*32*38 cm
Shipping Box:	59*43*54 cm
Net Weight:	11.5kg /19kg
Shipping Weight:	15kg/ 21kg

MECHANICAL

Chassis:	Stainless steel
Body:	DPP Panels
Build Platform:	Aluminium Heating plate/ Silicon Glass
XYZ Bearings:	Wear-resistant, oil-infused bronze
Stepper Motors:	1.8° step angle with 1/16 micro-stepping

ELECTRICAL

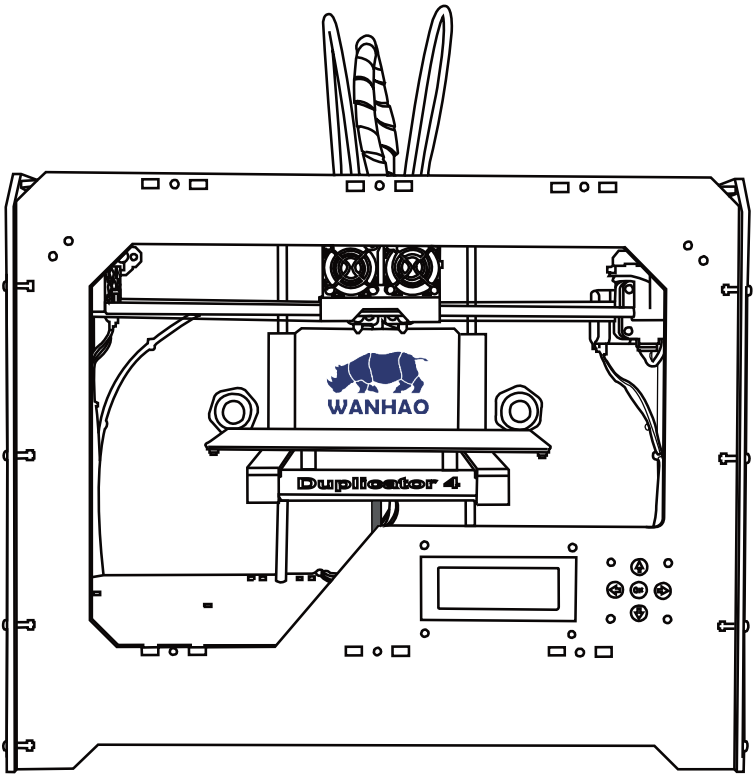
AC Input:	100 – 240 V, ~2 amps, 50 – 60 Hz
Power Requirements:	24 V DC @ 6.25 amps
Connectivity:	USB, SD card [FAT 16, max. 2GB]

Software

Software Bundle :	WANHAO Replicator G Sailfish WanHao Edition
File Types:	.stl, .Gcode
Supports:	Windows (XP / 7/8)
	Linux (Ubuntu 10.04+)
	Mac OS X (10.7 / 10.8)

HOW DOES IT WORK

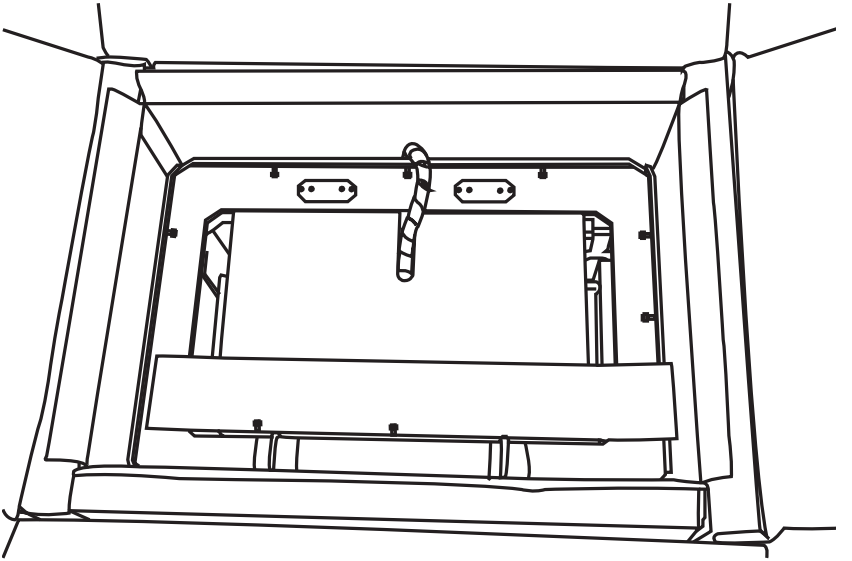
The WANHAO Duplicator 4/4x makes solid, three-dimensional objects out of melted WANHAO PLA/ABS Filament. Your 3D design files are translated into instructions for the WANHAO Duplicator 4/4X and sent to the machine via USB cable or SD Card. Then the WANHAO Duplicator 4/4X heats the WANHAO PLA Filament and squeezes it out through a nozzle to make a solid object layer by layer. This method is called Fused Filament Fabrication [FFF].



WANHAO

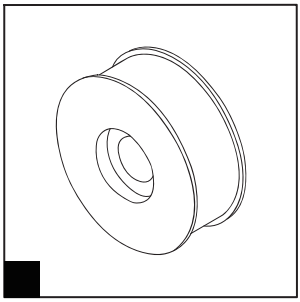
WANHAO Setting UP Your WANHAO Duplicator 4/4x Desktop 3D Printer

When you set up your WANHAO Duplicator 4/4X Desktop 3D Printer, remember that it was build and packaged very carefully at the WANHAO factory. We hope you' ll take your time and be just as careful unpacking it and getting it set up.

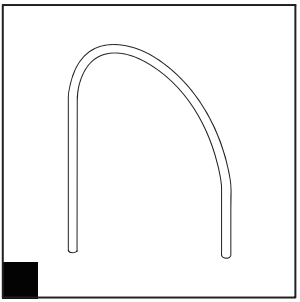


NOTE: Do not force or tear anything during unpacking and set up.This may damage the WANHAO Duplicator 4/4X Desktop 3D Printer.SETTING UP YOUR WANHAO DUPLICATOR 4/4X DESKTOP 3D PRINTER

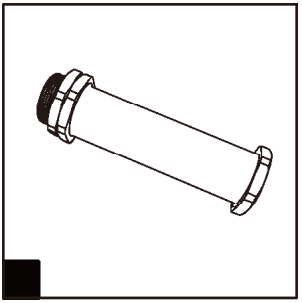
WHAT' S IN THE BOX



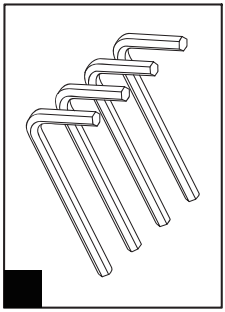
WANHAO ABS PLA Filaments (2KG)



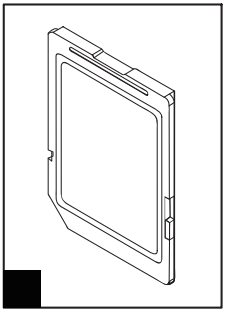
2pc Filament guide tube



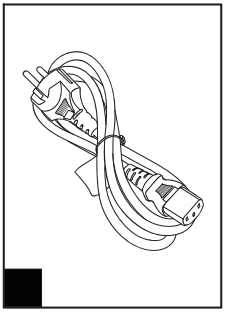
2pc Spool holder



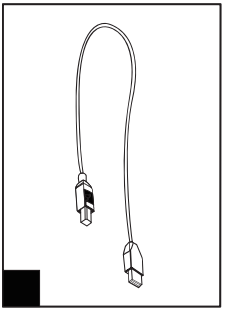
Hex wrenches



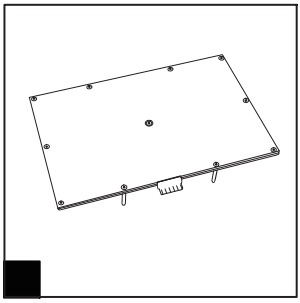
1pc SD card



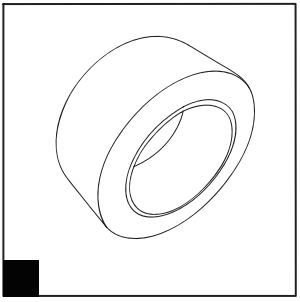
P ower cord



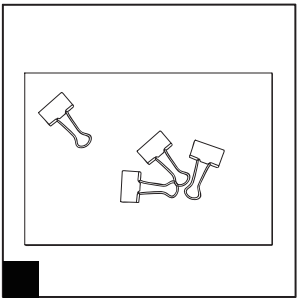
USB cable



Build plate



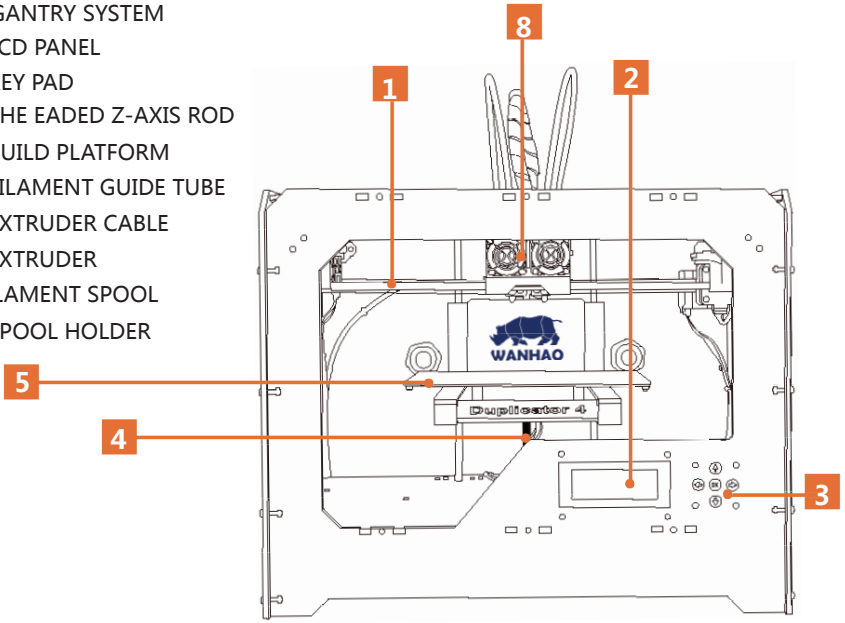
1 PC 3M tape

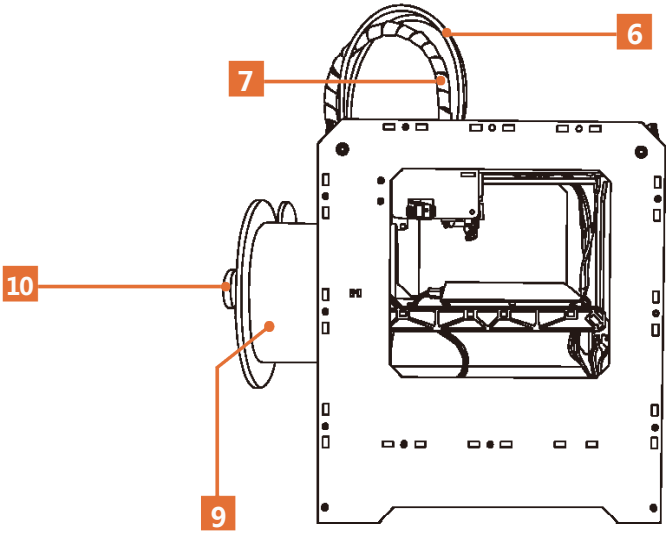


1 PC glass with clips

SPECIFICATIONS

[1] GANTRY SYSTEM
[2] LCD PANEL
[3] KEY PAD
[4] THE EADED Z-AXIS ROD
[5] BUILD PLATFORM
[6] FILAMENT GUIDE TUBE
[7] EXTRUDER CABLE
[8] EXTRUDER
[9] FILAMENT SPOOL
[10] SPOOL HOLDER





UNPACKING YOUR WANHAO DUPLICATOR 4/4x

1. Opening the Box

A. Place the WANHAO Duplicator 4/4X box on the ground. Open the box and remove the top cardboard sheet.

B. Remove the WANHAO Duplicator 4/4X User Manual.We recommend that you use the manual to guide you though the setup process and keep it at hand as you unpack the contents of the box. If you find that anything described in the manual is missing, email us at support@wanhao3dprinter com.

C. Remove the layer of foam and the sheet of cardboard underneath.

D. Remove the two protective bumper box pieces form the side of the Duplicator 4/4X.

2. Removing the WANHAO Duplicator 4/4x from the Box

A. Open the plastic covering and firmly grasp the frame of the WANHAO Duplicator 4/4x from the outside. Lift it out of the box and place it on a stable surface.

NOTE: The black cable is not a handle. Do not pull or twist the black cable at any time.

3. Removing the Accessory Box

A. Remove the two remaining protective foam pieces from the bottom of the Duplicator 4/4x' s box.

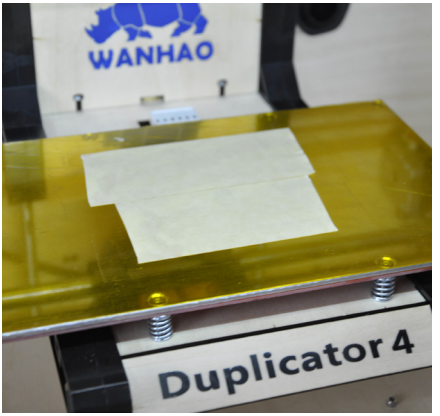
B. Pull out the accessory box. This box contain the remaining items from the "What' s in the Box" section.

NOTE: Your WANHAO Duplicator 4/4x should now be fully unpacked. We recommend that you keep the box and foam inserts in case you need to transport your WANHAO Duplicator 4 in the future.

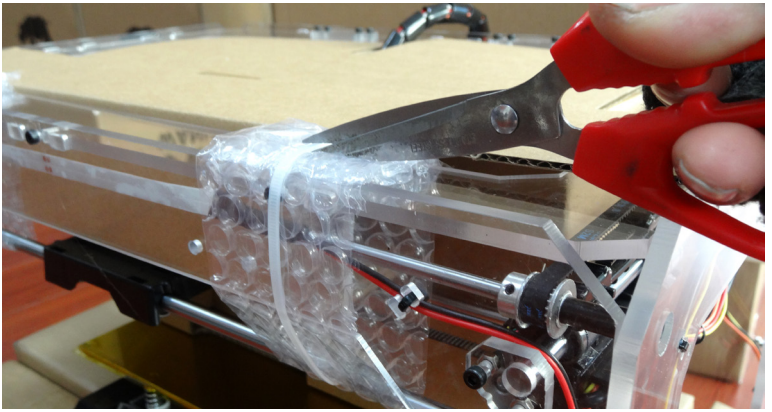
INSTALLING BUILD PLATE

4. Installing the Build Plate

Never tear off the yellow kapton tape on the aluminium plate. You can either put the silicon glass onto the platform to make the build plate perfect flat or without silicon glass plate(for freshman recommended). Please adjust the 4 knobs under HBP to re-level the heating plate if you are adding the silicon glass plate. Wanhao masking tape is used for both ABS and PLA printing which can make filament stick to the platform easier.



5. Freeing the Extruder



A. Use strong scissors or a wire cutter to cut the zip ties holding the gantry system in place. Discard the zip ties and the plastic pieces holding them in place.

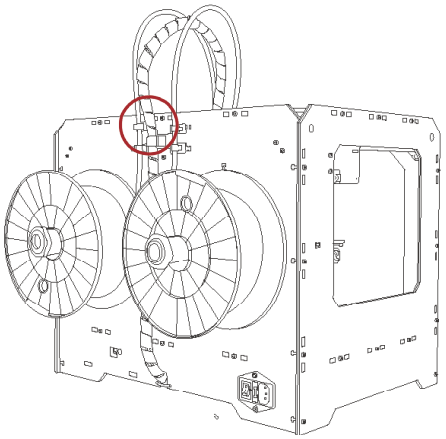
NOTE: Operate scissors with care.

B. A small plastic piece attached to the X-axis belt and gantry rods prevents the extruder form moving. Carefully snap the piece off of the rods and tilt it to slide if off of the belt.

6. Installing the Filament Guide Tube

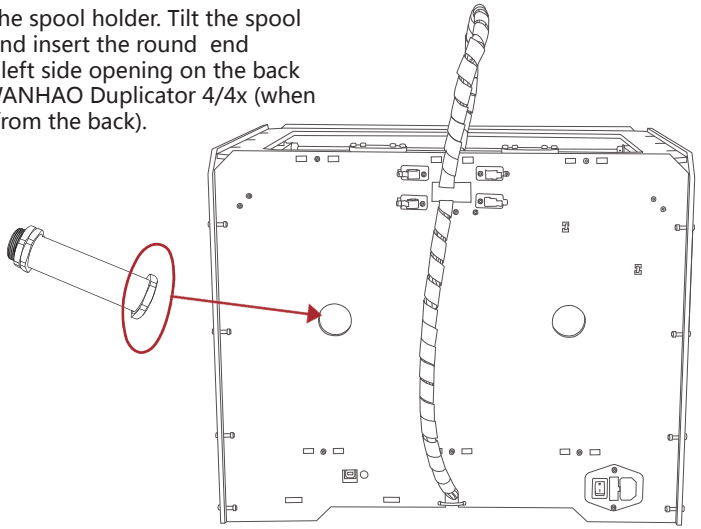
A. Locate the filament guide tube. Insert one end into the hole at the top of the extruder and push the tube in as far as it will go.

B. Insert the other end of the filament guide tube into the left guide tube holder (when viewed from the back) on the back of the WANHAO Duplicator 4/4x. Make sure that the end of the filament guide tube is flush with the bottom of the guide tube holder. The filament guide tube should not hang down past the bottom of the guide tube holder.



7. Installing the Spool Holder

A. Locate the spool holder. Tilt the spool holder and insert the round end into the left side opening on the back of the WANHAO Duplicator 4/4x (when viewed from the back).

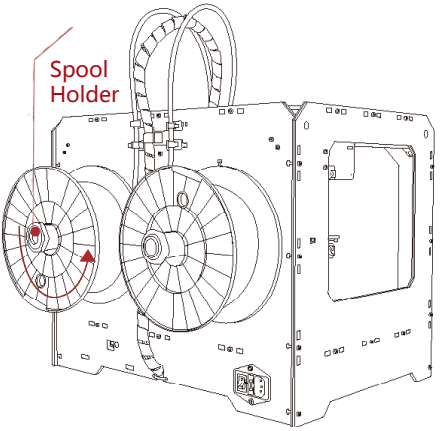


INSTALLING BUILD PLATE

8. Mounting the Filament Spool

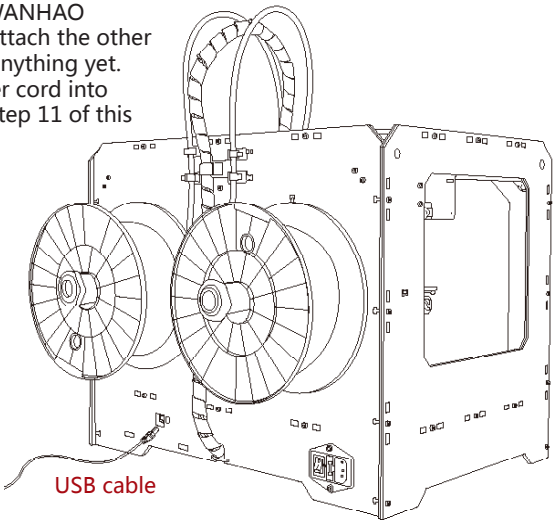
A. Open the box containing the WANHAO ABS and PLA Filament. Remove the spool from its bag.

B. Fit the spool onto the spool holder. Ensure that the WANHAO ABS and PLA filament unwinds counterclockwise(when viewed form the back).Squeeze the spool holder and push the spool on until it locks.



9. Attaching the USB Cable

A. Locate the USB-A to USB-B cable. Insert the USB cable into the USB-B Port on the back of the WANHAO Duplicator 4/4x. Do not attach the other end of the USB cable to anything yet. Do not plug the AC power cord into an electrical outlet until step 11 of this chapter.

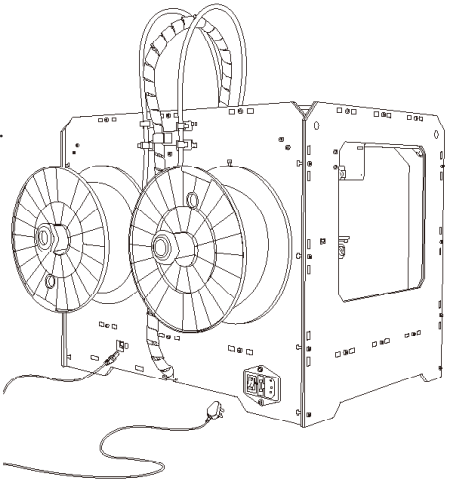


10. Attaching the Power Supply

A. Locate the power supply cable. Attach the cable to the power supply.

B. Ensure that the power switch on the WANHAO Duplicator 4/4x is set to the OFF position.

C. Insert the power supply connector into the power input on the back of the Duplicator 4/4x. Ensure that the flat side of the connector faces down.



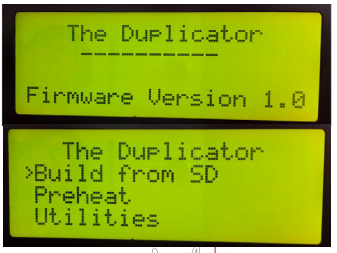
Power Supply

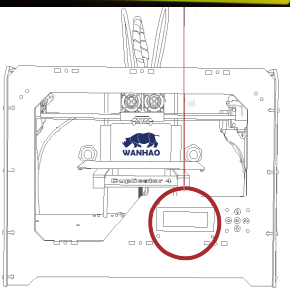
11. Powering On the WANHAO Duplicator 4/4x

A. Plug the AC power cord into an electrical outlet.

B. Set the power switch to the ON position.

C. The WANHAO Duplicator 4/4x will display The Duplicator text on the LCD panel. This is the beginning of the startup script that will guide you through initial calibration and your first build.





NOTE: The socket-outlet shall be installed near the equipment and shall be easily accessible.

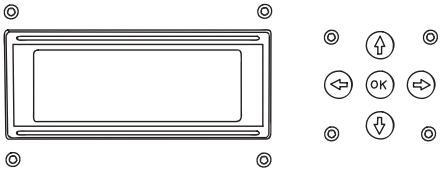
WANHAO

Startup Process: Leveling, Loading, Testing

After you power on the WANHAO DUPLICATOR Desktop 3D Printer, the LCD panel will light up and display text. The LCD panel will now run the Startup Script. The Startup Script will guide you through leveling the build plate, loading WANHAO PLA Filament, and creating your first build.

THE LCD KEYPAD

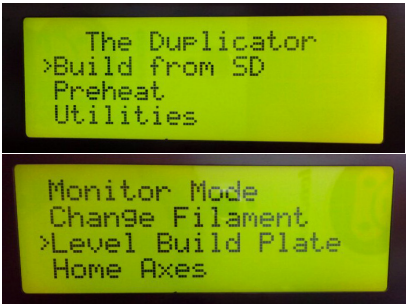
- Four arrow buttons surround a central OK button. Use the arrows to navigate through the LCD menus and make selections.
- The left arrow usually allows you to go back or cancel an action.
- OK button means the Printer is working.

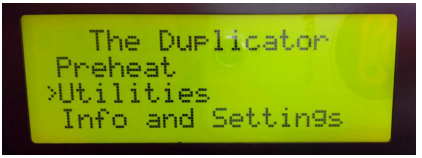


NOTE: Use the up and down arrow buttons to scroll through the top-level menu on the LCD panel, and use the OK button to select Utlities. You can use the left arrow to return to the Startup at any time. We also have vedios for you about this item. If you have problems or questions, refer to the troubleshooting chapter in this manual or contact WANHAO Support at support@wanhao3dprinter.com.

INSTALLING BUILD PLATE

After the initial welcome message, the LCD will display the fillowings:





1. Start printer the LCD display the items for operating.
2. Navigate to Utility and press OK.
3. Choose this item to start platform leveling.

! Why Leveling Is Important

- If the build platform is too far from the extruder nozzle, or if one part of the plate is farther away from the nozzle than another part, your builds might not stick to the build plate.
- If the build platform is too close to the extruder nozzle, the build plate can block the Printer PLA Filament from extruding from the nozzle. This can also scratch the build plate.
- Leveling your build plate often will help ensure that objects adhere well to the plate.

* How to Level the Build Plate

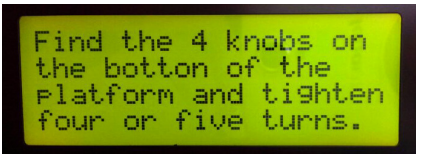
To level the build plate, you must adjust the four knobs which under the build platform. These four knobs lower and raise the build plate.

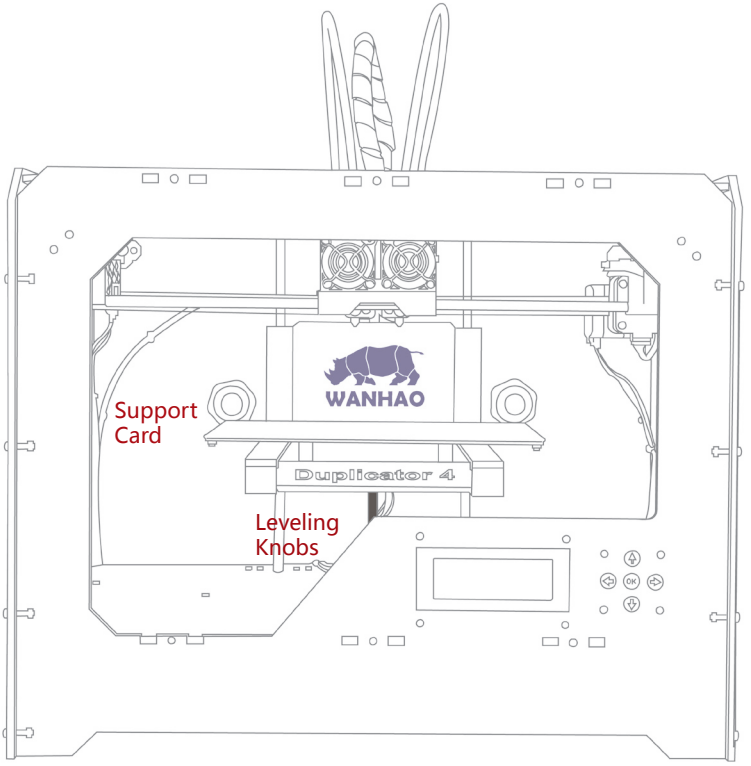
- Tightening the knobs [turning them to the right] moves the build plate away from the extruder nozzle.
- Loosening the knobs [turning them to the left] moves the build plate closer to the extruder nozzle.
- The distance between the extruder nozzle and the build plate should be about the thickness of the A4 paper.

LEVELING THE BUILD PLATE

1.Make Some Room Between the Build Plate and the Nozzle

When directed by the LCD screen, tighten each of the four knobs under the build platform about four turns.

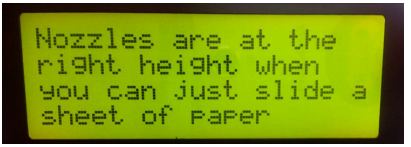




LEVELING THE BUILD PLATE

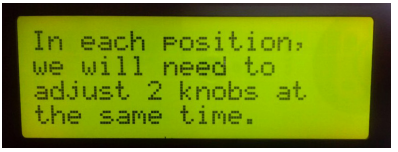
2. Adjust the Knobs as Directed

The script will prompt you to adjust the knobs individually. As you adjust each knob, make sure the A4 Paper just slides between the nozzle and build plate. You should feel some friction on the A4 Paper but still be able to easily pass the Paper between the plate and the extruder nozzle without tearing or damaging the paper.



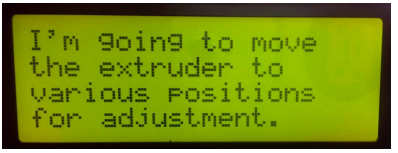
3. Adjust Each Knob Again

The script will prompt you to adjust each knob again. This allows for fine tuning. This time, the A4 Paper should slide between the build plate and nozzle with more friction.



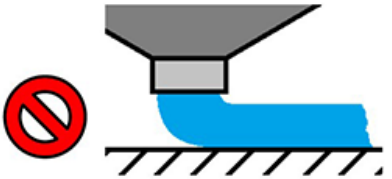
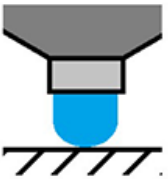
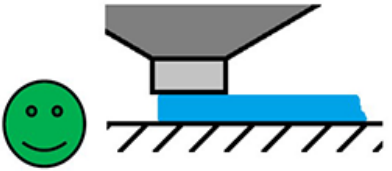
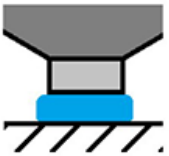
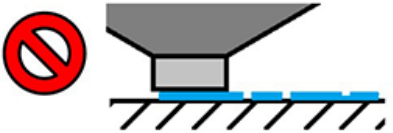
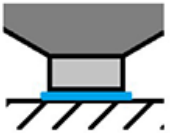
4. Confirm your Adjustment

After the second set of adjustments, the nozzle will move to the center of the build plate. Confirm that the the A4 Paper slides between the nozzle and plate with a moderate amount of friction.

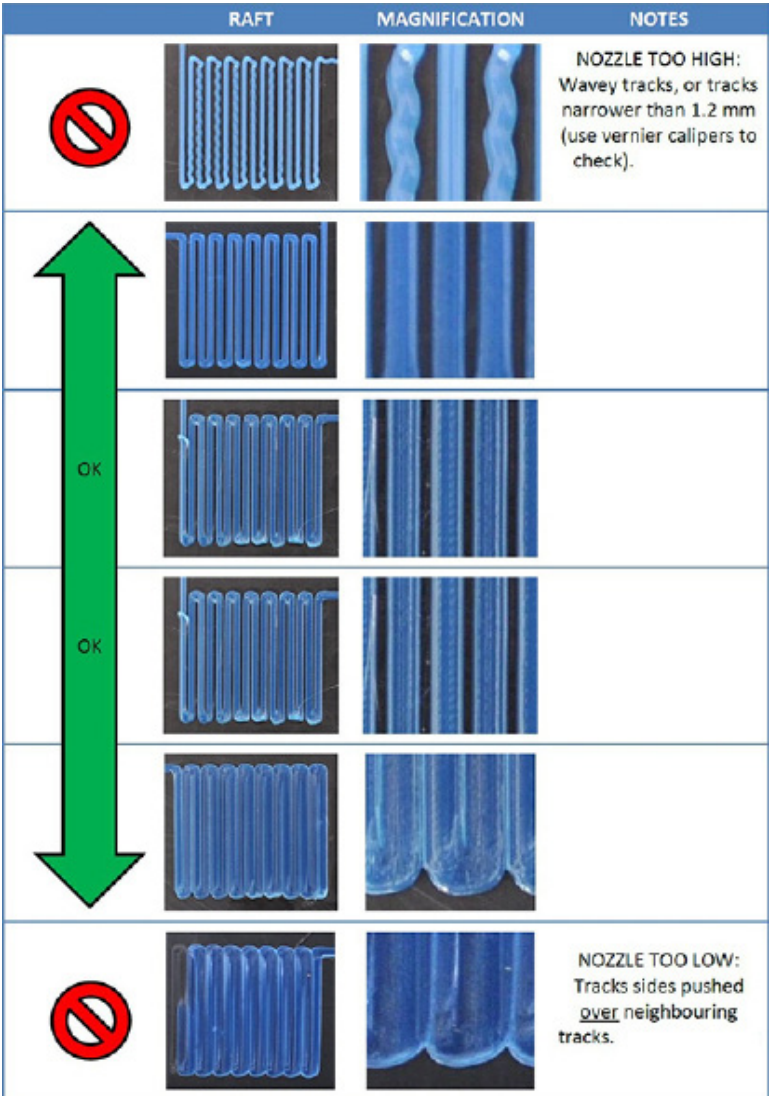


LEVELING THE BUILD PLATE

5. Compare your printed raft with the following Nozzle height checking diagram to ensure you have the correct nozzle height and filament width.

SIDE VIEW	END VIEW	COMMENTS
		**NOZZLE TOO HIGH:** Not enough pressure on the filament into the bed, therefore small contact area between filament and bed. Raft may detach in mid print.
		**OK:** Filament pushed into the bed slightly to maximise surface area contact with bed, but still maintain extrusion flow.
		**NOZZLE TOO LOW:** Not enough clearance for the filament to be extruded, damaging either the extruder or the bed.

LEVELING THE BUILD PLATE


RAFT
MAGNIFICATION
NOTES
NOZZLE TOO HIGH: Wavey tracks, or tracks narrower than 1.2 mm (use vernier calipers to check).
OK
OK
NOZZLE TOO LOW: Tracks sides pushed over neighbouring tracks.

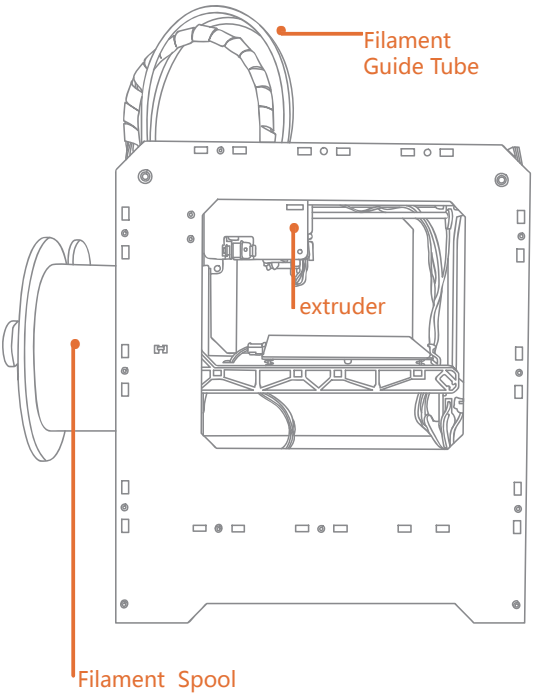
NOTE: If you have problems, or if you need to level your build plate again, you can use the up and down arrows to scroll through the top-level menu on the LCD panel and use the OK button to select Utilities. Scroll to Level Build Plate and select it. You can use these menus to return to the leveling script at any time.

Loading PLA Filament

When you have completed the initial leveling tasks, the LCD menu will display the following text: "I am Ready" . Before building, youmust load the PLA Filament into the extruder. The extruder will heat the PLA Filament and use the melted material to build things.

* What You Will Do

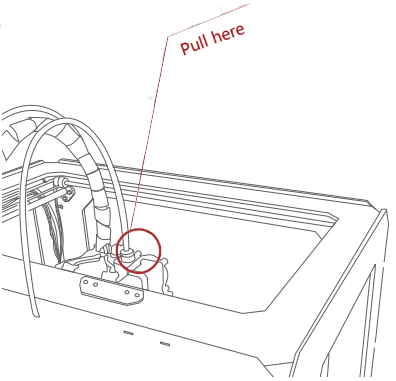
- Remove the end of the filament guide tube from the hole in the top of the extruder.
- Feed the free end of the PLA Filament from the spool into the end of the filament guide tube where it attaches to the back of the Printer
- Push the PLA Filament all the way through the filament guide tube.
- Wait for the PLA Filament to heat and extrude.



Loading PLA Filament

1. Detach the Filament Guide Tube

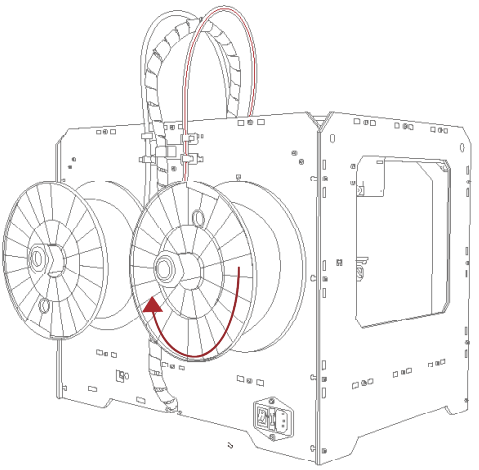
Locate where the filament guide tube attaches to the top of the extruder. You must remove the filament guide tube from the extruder. To remove the tube, gently pull it out of the hole in the top of the extruder.



2. Feed the Filament Through the Filament Guide Tube

Free the end of the PLA Filament from the filament spool. With a pair of scissors, cut a clean edge. Feed the end of the PLA Filament into the end of the guide tube where it attaches to the back of the Printer. Feed the PLA Filament through the guide tube until it emerges from the other end of the tube.

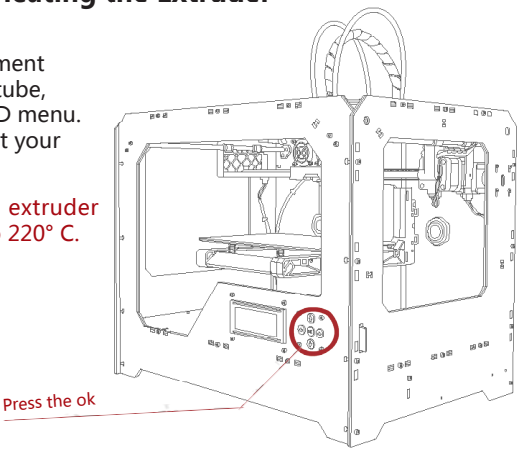
NOTE: To avoid filament jams, ensure that the PLA Filament feeds from the bottom of the spool toward the top of the spool. Put the right filament iinto the left filament tube. Put the left filament into the right filament tube.



3. Press the OK to Begin Heating the Extruder

After you’ ve fed the PLA Filament all the way through the guide tube, press the OK button on the LCD menu. The Duplicator will start to heat your extruder.

WARNING: Do not touch the extruder while it is heating — it heats to 220° C.

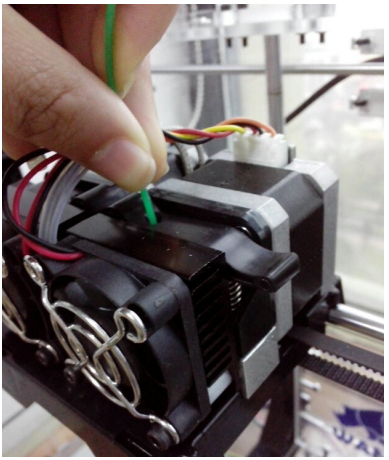


4. Press the " O K " to Continue

After the extruder reaches 220° C, the LCD panel will prompt you to load the PLA Filament into the extruder. Click through the message until your Printer asks you to press the OK when you see plastic extruding.

5. Push the Filament into the Extruder

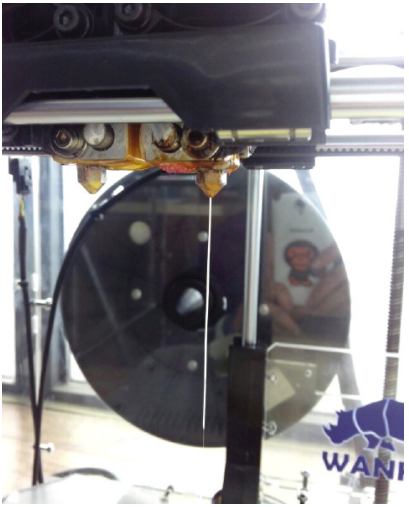
To use one hand to push the loading button down and Take the end of the PLA Filament closest to the extruder and firmly push it into the hole in the top of the extruder.Ensure that the filament goes into the center of the opening and doesn' t get caught at the edge of the opening.



Maintain pressure on the filament and continue pushing it into the opening. After about five seconds, you should begin to feel the motor pulling in the filament. Maintain pressure for another five seconds and then let go.

6. Stop Extrusion

Watch the extruder nozzle. After a few moments, you should see a thin string of the PLA Filament that you loaded come out of the nozzle. Press the OK button to stop extrusion.



NOTE: Don' t be surprised if the filament that initially comes out of the nozzle is not the color you expected. There' s probably some filament inside the extruder left over from our testing process in factory. Wait until you see the color that you loaded come out of the nozzle before you press the OK button.

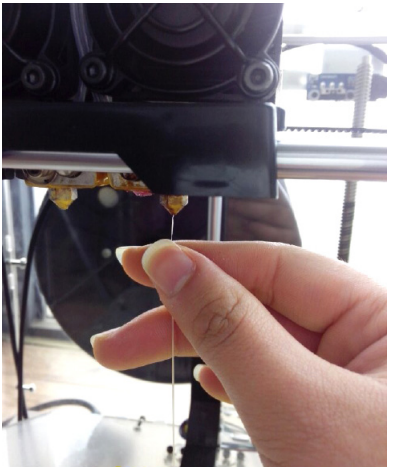
7. Return the Filament Guide Tube

Push the guide tube back into the opening on the top of the extruder.

NOTE: If you have problems or need to load the PLA Filament again, you can use the up and down arrows to scroll through the top-level menu on the LCD panel and use the OK button to select Utilities. Scroll to Change Filament and select it. Then select Load. You can use these menus to return to the load script at any time.

8. Remove the Extruded PLA

Wait a few minutes for the extruded PLA to cool, then pull it off the nozzle. You can discard this extra filament. Don’ t touch the nozzle; it may still be hot. Don’ t leave plastic clinging to the extruder nozzle. This can cause newly extruded plastic to stick to the nozzle instead of the build platform.



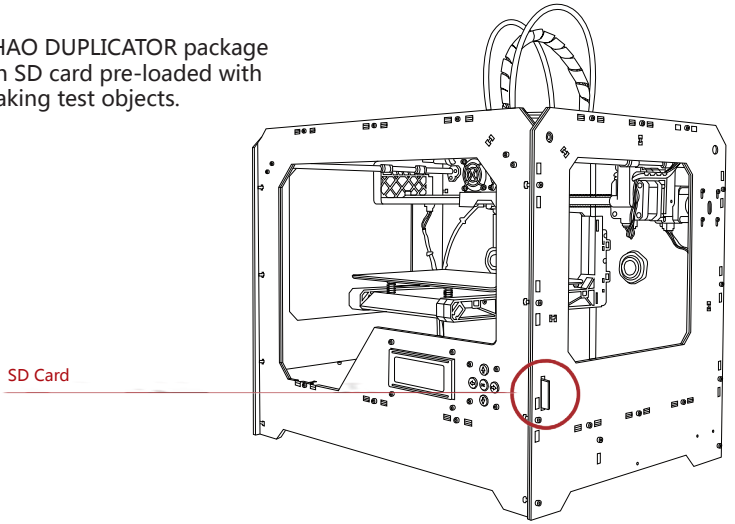
*Unloading PLA Filament

If you need to unload the PLA Filament, the LCD menu will walk you through the process. To run the script for unloading the filament, go to the LCD panel and select Utilities >Filament Options > Unload.

MAKING A TEST OBJECT FROM THE SD CARD

1. Locate the SD Card

The WANHAO DUPLICATOR package includes an SD card pre-loaded with files for making test objects.



2. Select a Project from the SD Card

After you have successfully leveled the build platform and loaded the PLA Filament into the extruder, the LCD panel will say: "I am ready"

A : Use the up and down arrow buttons to navigate through the list of models on the SD card.

B : To select a model, press OK.

C : The Printer will begin to build your object. You can use the LCD panel to monitor the temperature of the extruder and the status and progress of your object.

more object availiable please download from our websiteShare : WWW.THINGSHARES.com

WANHAO

Making an Object with WanHao ReplicatorG

How to make an object using a computer and WanHao Replicator G
Making an object with WanHao Replicator G

Using WanHao Replicator G

Replicator G is software that prepares 3D models for building and sends them to your WanHao Duplicator Desktop 3D Printer for building.

Download and Install WanHao Replicator G.

a. Go to the computer you plan to connect to your WanHao Duplicator and open a browser session.

b. Enter the URL www.wanhao3dprinter.com and download the correct Replicator installer for your operating system.

c. After downloading, open the installer and follow the directions to install the software.

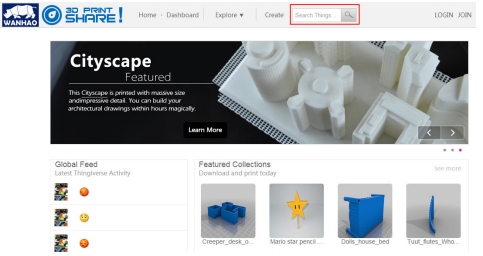
d. Use the supplied USB cable to connect your WanHao Duplicator to your computer.

NOTE: You can find a video of this tutorial at http://www.wanhao3dprinter.com

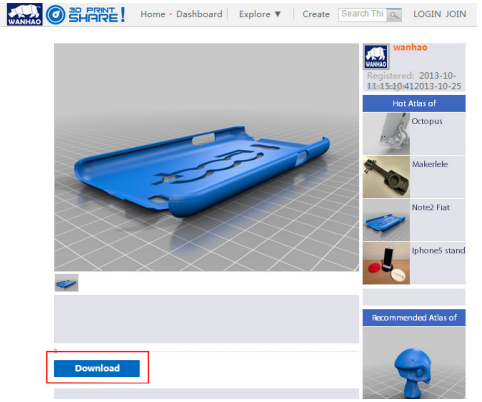
2. Download an Object From WanHao Thingshares

Thingshares is a website where WanHao users and others can share design files.
ThingShares

A. Open a browser session and go to www.thingshares.com. Use the search field at the upper middle to search for "what files you want" . Your search results should include that. Click on the link.



B. At the left of the page you will see a button that says "Download" Click this button to open the Downloads window.



3. Open WanHao Replicator G

[1] Zoom in and out : You can also use the scroll wheel on your mouse to zoom in and out.

[2] View: Click the View button to go into View mode. In this mode, click and drag with your mouse to rotate the plate and the object.

[3] Move : Click the Move button to go into Move mode. In this mode, click and drag with your mouse to to move an object around the plate.

[4] Rotate: Click the Rotate button to go into Turn mode. In this mode, click and drag with your mouse to rotate the object in all directions.

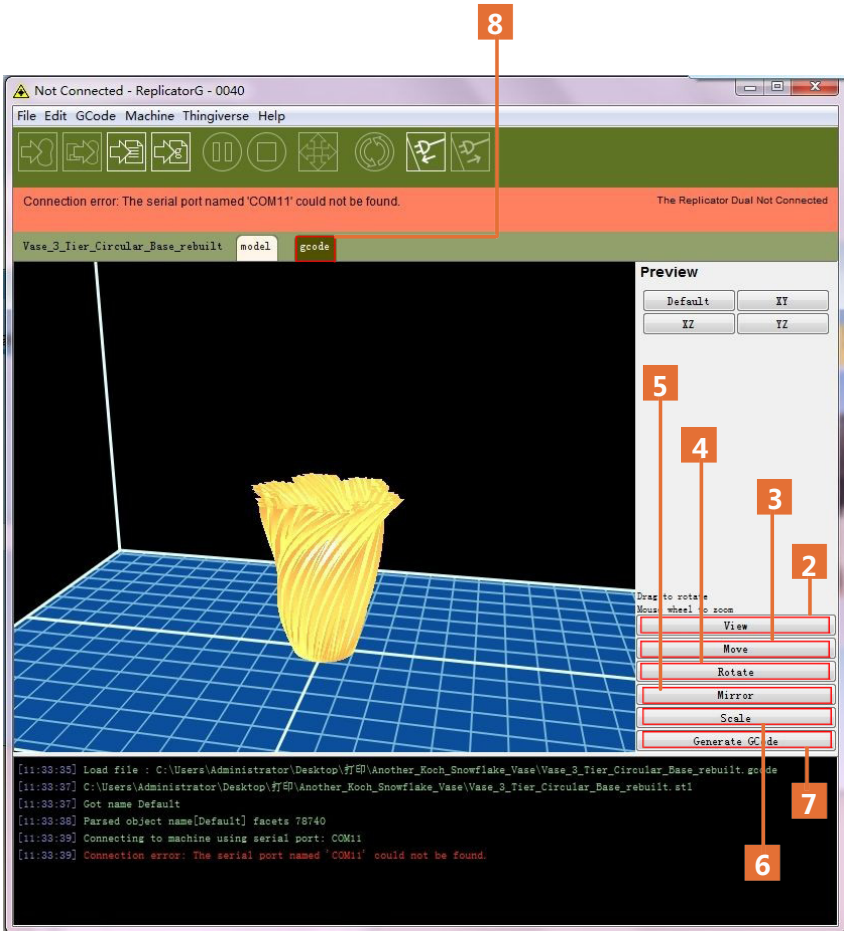
[5] Mirror: Click the Mirror button to go into Mirror mode. In this mode, click the buttons at the upper side of the right to reflect the object in X, Y, Z respectively.

[6] Scale : Click the Scale button to go into Scale mode. In this mode, click and drag with your mouse to to enlarge or shrink your object. Use the bottons at the upper side of the Scale button to open the Change Dimensions submenu and scale by a percentage or to a specific measurement.

[7] Generate GCode: Click this button to open the Generate GCode dialog, where you can specify print resolution and other options and click Generate GCode for building.

[8]Click the "gcode" at the forth Status Bars and adjust the HBP printing temperature based on your printing material (see FAQ on www.wanhao3dprinter.com). After adjustment, choose printing. ABS HBP printing temperature: 110 ℃ ; PLA HBP printing temperature : 60℃

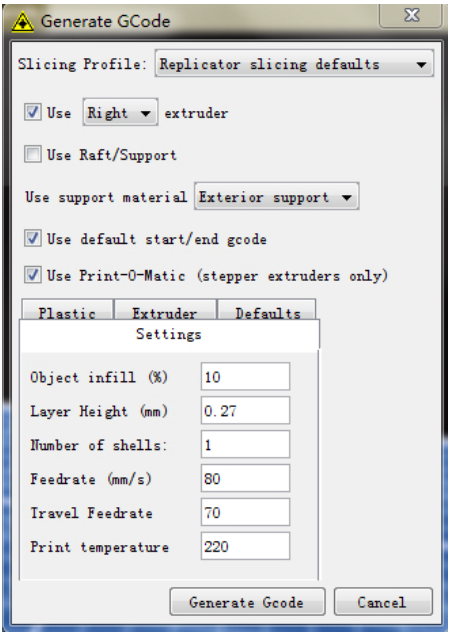
3. Open WanHao Replicator G | Continued



4. Open the .stl files in WANHAO REPLICATORG

a. Click on the File button.Navigate to the location of the file .stl and select it. The file will open at the center of the build plate.

b. Use the buttons on the left side to adjust the object's size, location, etc. Then generate Gcode. You will see the Generate GCode dialogue:



[1] Slicing Profile: Select Replicator slicing default, if not already selected.

[2] Extruder: Choose the extruder you are going to use.

[3] Raft: Select this to have your object built on a raft. Rafts provide a base for supports and help your object stick to the build plate.

[4] Support : Select this to have your object include easily removable support structures under overhanging parts of the object.

[5] Object infill: Select this to make your object infill rate. It's better to make 10%

[6] Layer Height: Select this to change your printing layer height to specify your printing quality.

[7] Number of shells: Select this to specify you shell numbers, suggested data: 1

[8] Feedrate(mm/s): Select this to change your printing speed: 30-80mm/s

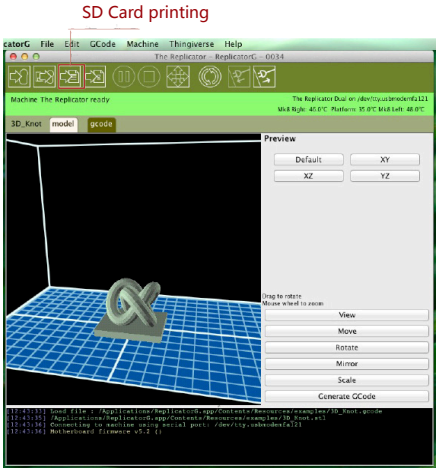
[9] Travel Feedrate: Select this to change your travel speed:70

[10] Print temperature: Select this to change your extruder printing temperature: 220

4. Build from SD Card

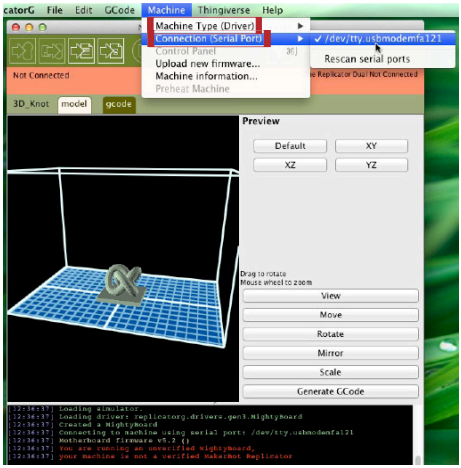
4a. Press the third button in the green bar to "Build to File for use with SD card" And save the file as .x3g format to your SD card. Specify a name for the file.

4b. Put the SD card to the card slot and choose the saved file to print.



5. Build with Computer

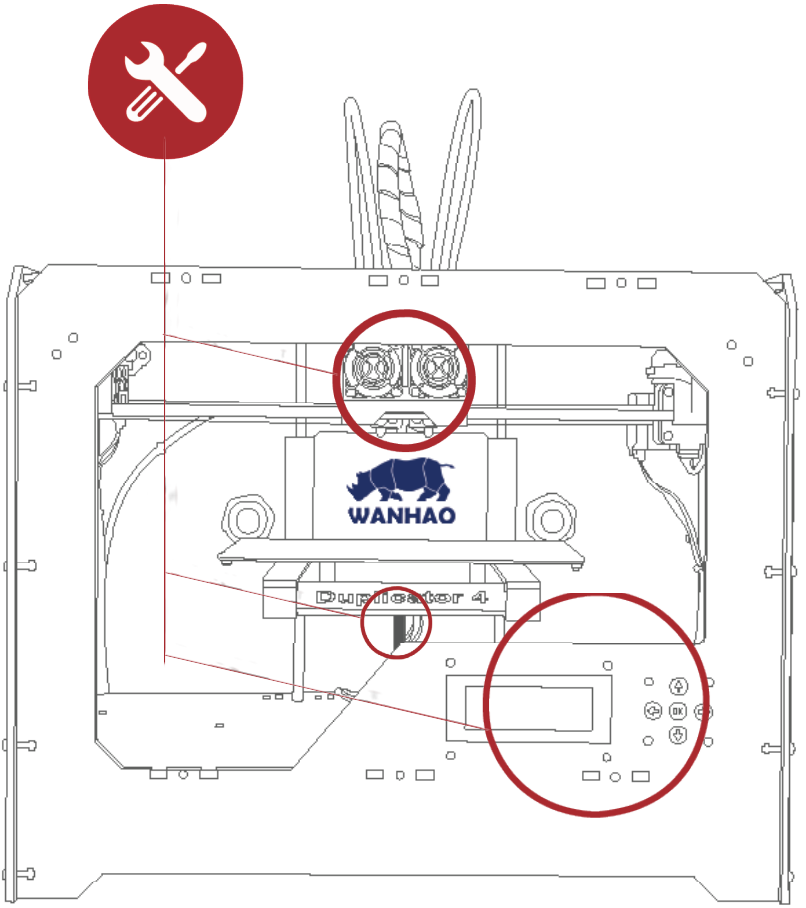
4c. Choose your machine type in replicator G , then connection serial port in Machine button. Then press connect button. After connection, press print.



WANHAO

Troubleshooting, Diagnostics, and Maintenance

This chapter describes basic troubleshooting and maintenance tasks for your WANHAO Duplicator4 Desktop 3D Printer. For details on more advanced troubleshooting and m aintenance tasks, go to wanhao3dprinter.com/FAQ.



PROBLEM	SOLUTION
1. Can't load WanHao Filament into the extruder	Make a fresh cut at the end of the Filament. Cut the Filament at an angle—a narrow tip will help with loading. Use more force when pushing the Filament into the extruder. Grasp the filament firmly and push it into the middle of the hole on top of the extruder. Ensure that you insert the Filament straight down into the extruder, not diagonally. After you feel the motor grab the filament, continue to maintain pressure on the filament for another five seconds.
2. Object is stuck to build plate	Wait for the object to cool down. Objects will detach more easily after they have cooled. If the object is still stuck, take a thin metal craft spatula and carefully work the blade under the edge of the object. When the blade is most of the way under the object, twist the handle slightly. The object should come free.
3. Can't remove the Filament from extruder	Run the filament load script in the onboard Utilities menu and let the filament advance for about five seconds. Then run the unload script again.

DIAGNOSTICS LCD PANEL | TOP-LEVEL MENU

Build from SD	Displays the list of models on the SD card. Select one to start a build
Preheat	Allows you to preheat the extruder.
Utilities	Tools that allow you to configure and maintain your Duplicator 4.

DIAGNOSTICS LCD PANEL | UTILITIES MENU

UTILITIES

- **Monitor Mode** — Displays the current temperature of the extruder. When making an object, displays the percent completed.
- **Change Filament** — Scripts that walk you through tasks associated with the Filament.
  - **LOAD(Left / Right):** Script that walks you through the process of loading the Filament.
  - **UNLOAD(Left / Right):** Script that walks you through the process of unloading the Filament.
- **Level Build Plate** — Script that walks you through the process of leveling the build plate.

Bot Statistics: Displays the estimated total hours and minutes of building in the lifetime of your duplicator 4 and the duration in hours and minutes of the last build.

General Settings: Optional settings and information

1,Sound: Turns the duplicator 4/4X' s indicator sounds on or off.
2,Heat hold: Specifies a time period for your extruder to continue heating when a 3D print is canceled

Preheat Settings: Allows you to change the temperature setting for the extruder. Before you print,you can set the temperature when you generate G code.

MAINTENANCE

Lubricating the Threaded Rod and the X-Axis Idler Pulley

1. Find the tube of PTFE-based grease, included with your wanhao 3d printer.
2. Grasp both sides of the build platform and push it gently to the bottom of duplicator 4/4X , Use a clean, lint-free rag [or your finger],to spread the PTFE-based grease onto the top section of the threaded rod.Grasp both sides of the build platform and move it to the top of the duplicator 4/4X , Use a clean, lint-free rag [or your finger] to spread the PTFE-based grease onto the bottom section of the threaded rod. Make sure you get the grease inside of the threads themselves
3. Locate the X-axis idler pulley. If you are,facing the front of duplicator 4/4X, the idler pulley is at the top left side. The idler pulley is one of the pulleys that allow the rubber belt to move the extruder from left to right, or along the X-axis.The pulley at the other side of the gantry is called the timing pulley and does not require lubrication.

Cleaning the Drive Gear

The drive gear is the part of the extruder that pushes filament through the extruder. When you make things with your wanhao 3d printer , small pieces of hardened PLA/ABS can stick to the drive gear. If you are having problems with your extruder, cleaning the drive gear might help.

1. Unload the wanhao PLA/ABS Filament from the extruder. To start the script for unloading the wanhao PLA/ABS Filament, go to the LCD panel and select Utilities > Filament Options > Unload.

2. Unscrew the two bolts at the lower corners of the fan guard using the 2.5 mm hex key included with your duplicator 4/4X .As one piece, remove the fan guard, the fan, the heat sink, and spacers. Keep these pieces together and set them aside.

3. Unclip the motor wires.

4. Pull the motor assembly out.

5. Find the drive gear on the motor shaft.Using a small instrument like a makeup brush, toothbrush or toothpick, remove all the pieces of filament stuck to the drive gear.

6. Reseat the motor assembly.

7. Plug in the motor wires

8. Add the fan guard, the fan, the heat sink, and spacers to the front of the extruder and bolt them on.

9. Reload the wanhao PLA/ABS Filament. To do this, go to the LCD panel and select Utilities > Filament Options > Load.

Glossary Of Terms

24V fan : The fan that cools the wanhao Filament as it extrudes.

Yellow Tape: Yellow masking tape that makes a great build surface for objects printed with wanhao Filament. You can find yellow tape at any hardware store.

Build plate : The acrylic surface on which the Duplicator 4/4X builds an object.

Drive gear: The gear that drives the Wanhao Filament into the heater

Extruder: The assembly that draws the filament from the spool, melts it , and pushes it through the nozzle onto the build plate.

Filament guide tube: The plastic tube that guides the wanhao Filament from the filament spool to the extruder.

FIRMWARE: The software that runs on your wanhao 3d printer

GANTRY : The metal rods that allows the duplicator 4/4X' s extruder to move on the X and Y axes.

GCode: The computer language used to describe the toolpath your wanhao 3d printer will use to build an object. GCode is converted to .x3g before being sent to your machine.

LCD control panel : The display at the front lower right corner of the wanhao duplicator 4/4X. This control panel provides status information about the wanhao duplicator 4/4X and includes control menus and diagnostics。

Wanhao ABS/PLA Filament: ABS/ PLA is a renewable bioplastic. Wanhao ABS/ PLA Filament is the source material from which you make objects on the wanhao duplicator 4/4X.

Replicator G: Free software created by wanhao that allows you to load, rotate, scale and move 3D models and send them to the wanhao duplicator 4/4X for building.

Motor assembly: The stepper motor and the drive block that push filament into the extruder.

Motor wires : The bundle of electrical wires that provide power to the motor.

Nozzle: The opening on the end of the extruder from which heated wanhao Filament emerges to be spread onto the build plate。

Plunger: A part of the extruder assembly. The MK9 plunger pushes the wanhao Filament against the drive gear.

Power supply: The power supply for the wanhao duplicator 4/4X. It includes a block and two plugs.

SD Card: Secure Digital memory card that can store digital data and be read by duplicator 4/4X and has a maximum capacity of 2GB.

Spacers: The plastic pieces that keep the extruder fan and heat sink secure and in place.

Spool holder: The plastic piece that attaches to the back of wanhao duplicator 4/4X and holds the spool of wanhao Filament. The spool holder ensures that the Filament is fed evenly to the extruder.

Thingshares: A website for uploading and downloading 3D model files for use with the wanhao duplicator 4/4X.

Threaded rod: The long rod behind the build platform that is threaded along its entire length. This rod allows the build platform to move up and down, or along the Z-axis.

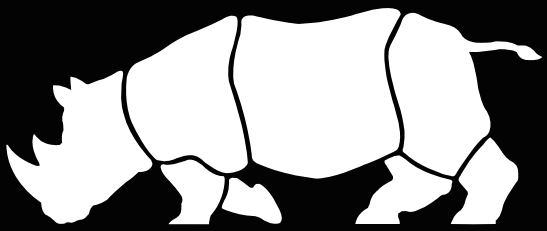
.stl : A widely used file format for 3D models.

USB cable : The cable that allows the wanhao duplicator 4/4X to communicate with a computer using the USB interface on the computer.

.X3G: A compact format for describing the toolpath your wanhao duplicator 4/4X will use to build an object.

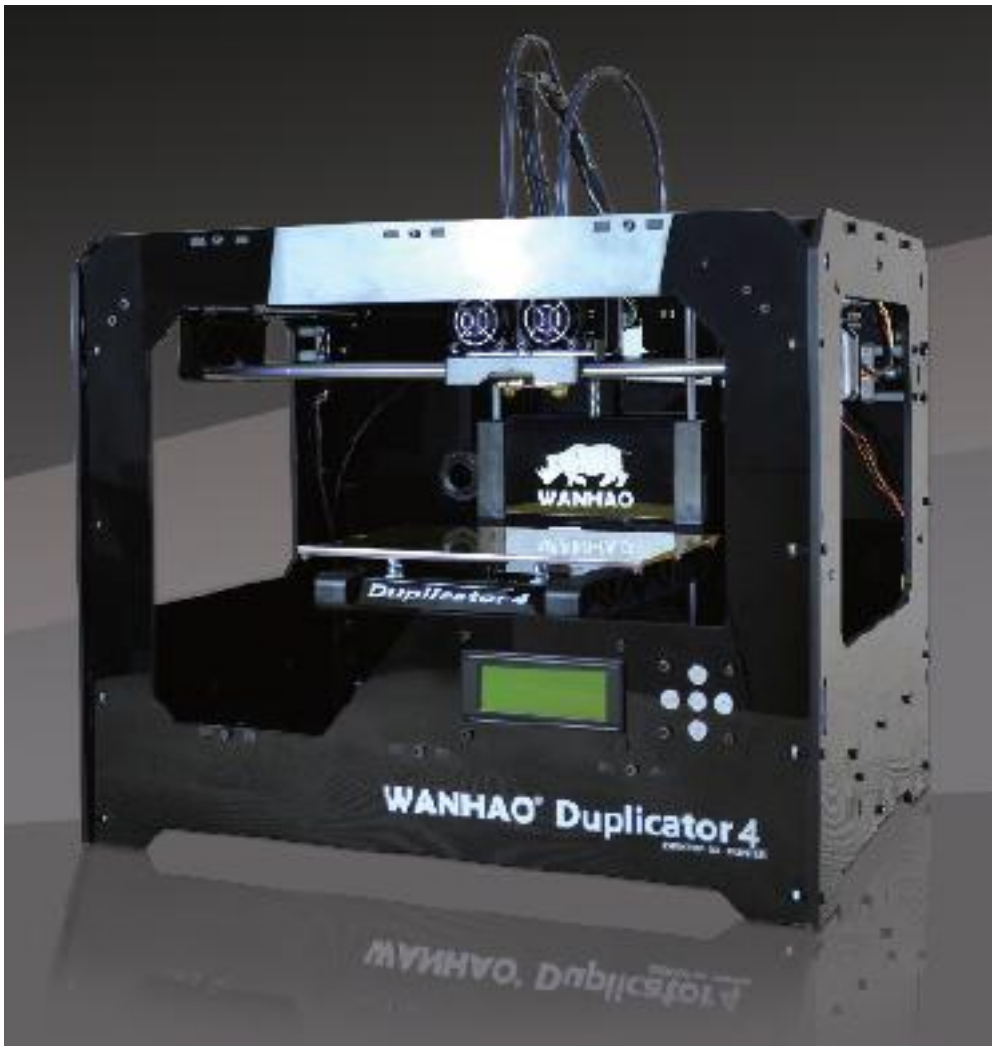
CONTACT US

SUPPORT	www.wanhao3dprinter.com Our website has extensive documentation and troubleshooting information about your wanhao duplicator 4/4X Desktop 3D Printer. It' s a great resource when you want to try to solve issues quickly on your own. support@wanhao3dprinter.com If you ever need help resolving an issue with your wanhao 3d printer, send an email to the address above to open a ticket with the wanhao Support Team. To help us understand your problem from the start, it is very helpful to include pictures or a video as attachments with your email
SALES	sales@wanhao3dprinter.com To learn about other wanhao products, including wanhao Filament, please email the address above, or call our Sales Team at +86-579-82346658
FORUM	Wanhao has create one google forum to help customer to improve their printing skills and share their experience. FORUM:https://groups.google.com/forum/#!forum/wanhao-printer-3d



WANHAO

NÁVOD NA POUŽÍVANIE



3Dimenzia

3Dimenzia.sk

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Táto používateľská príručka je určená ako návod pre správne používanie Wanhao Duplicator 4/4x 3D tlačiarne. Dokonca aj keď ste oboznámení s predchádzajúcimi strojmi Wanhao, je dôležité, aby ste si prečítali tento manuál, pretože existuje niekoľko dôležitých a aktualizácií pri Wanhao Duplicator 4/4x.

V kapitole A a B sa oboznámite so základmi 3D tlačiarne Wanhao Duplicator 4/4x, ako ju bezpečne vybaliť a ako nastaviť.
Kapitoly C - E Vás prevedú krok za krokom cez vyrovnanie dosky, tlač, údržbu a riešenie problémov.
Spoločnosť Wanhao sa teší, že Vás môže privítať vo svete 3D tlačiarní Wanhao Duplicator 4/4x.
Prečítanie tejto príručky vám pomôže zabezpečiť získanie čo najväčšieho využitia Vášho zariadenia.

VAROVANIE: Wanhao Duplicator 4/4x produkuje vysoké teploty a obsahuje pohyblivé časti, ktoré môžu spôsobiť zranenie. Nikdy nesiahajte dovnútra Wanhao
Duplicatora 4/4x, keď je v prevádzke.
Vždy umožnite zariadeniu Wanhao Duplicator 4/4x vychladnúť.

VAROVANIE: Nenechávajte zariadenie Wanhao Duplicator 4/4x bez dozoru počas
prevádzky.

VAROVANIE: Ak potrebujete otvoreniť zariadenie Wanhao Duplicator 4/4x kvôli servisu, skontrolujte, či je vypnuté a napájací kábel je odpojený z elektriny.

ŠPECIFIKÁCIE

TLAČ

Technológia tlače: FDM technológia
Max. veľkosť potlače: 22,5 * 14,5 * 15 cm
Rozlíšenie vrstva: Vysoké 100 mikrónov {0,0039 v}
Stredná 270 mikrónov {0,0106 v}
Nízke 340 mikrónov {0,0133 v}
Presnosťou polohovania: XY: 11 mikrónov {0,0004 v}
Z: 2.5 mikrónov {0,0001 v}
Vlákno Priemer: 1,75 mm {0,069 v}
Tryska Priemer: 0,4 mm {0,015 v}

TEPLOTA

Prevádzková teplota: 15 ° C - 32 ° C [60 ° - 90 ° F]
Skladovacia teplota: 0 ° C - 32 ° C [32 ° - 90 ° F]

ELEKTRICKÉ

AC Vstup: 100 - 240 V, ~ 2 ampérov, 50-60 Hz
Požiadavky na napájanie: 24 V DC @ 6,25amper
Pripojenie: USB, SD karty [FAT 16, max. 2GB]

FYZIKÁLNE ROZMERY:

Bez cievky: 47 * 32 * 38 cm
S cievkou: 47 * 32 * 38 cm
Prepravná krabica: 59 * 43 * 54 cm
Čistá hmotnosť: 11,5 kg / 19 kg
Prepravná hmotnosť: 15 kg / 21 kg

MECHANICKÉ ŠPECIFIKÁCIE:

Materiál - spodok: nerez
Telo tlačiarne: DPP panely
Vyhrievaná podložka: hliníková vyhrievaná podložka / silikón
XYZ ložiská: odolné proti opotrebovaniu / olejom napustený bronz
Krokové motory: 1,8 ° uhol kroku, 1/16 mikro-kroky

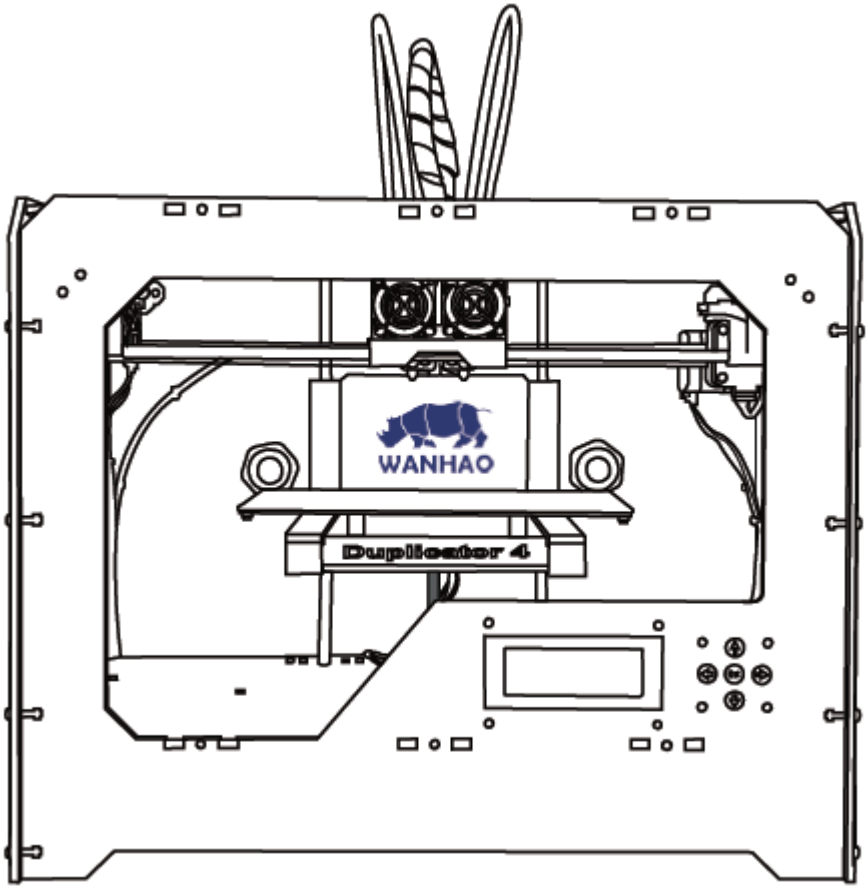
SOFTVÉR

Typ softvŕu: Wanhao Replicator G Sailfish Wanhao Edition
Typy súborov: .stl., G code
Podporuje: Windows (XP / 7/8)
Linux (Ubuntu 10.04+)
Mac OS X (10.7 / 10.8)

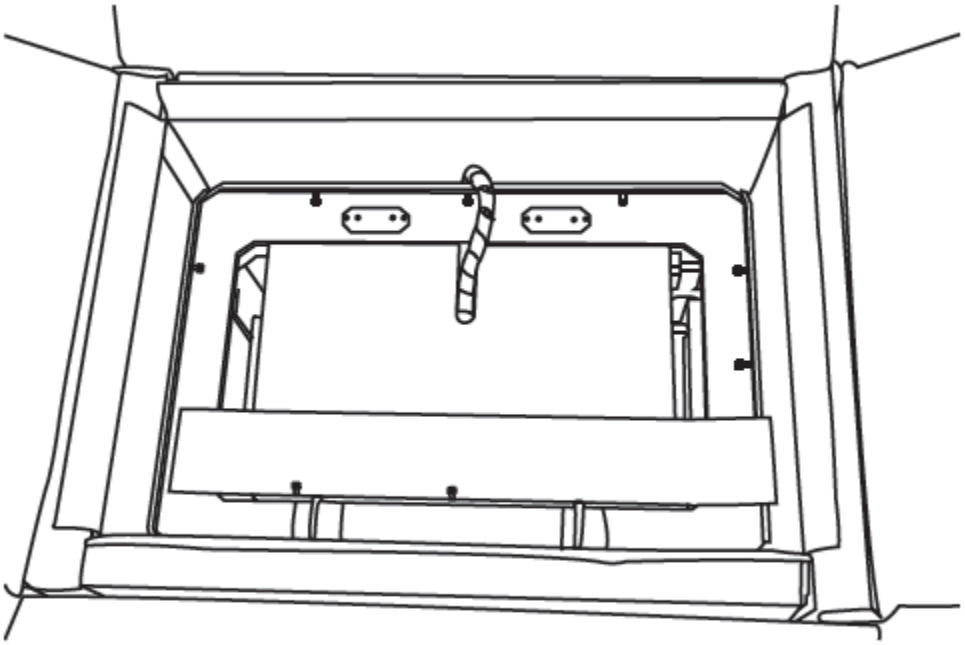
AKO TO FUNGUJE

Zariadenie Wanhao Duplicator 4/4x vyrába pevné, trojrozmerné predmety z roztaveného Wanhao PLA/ABS vlákien. Vaše 3D návrhy (súbory) sú konvertované pre Wanhao Duplicator 4/4x a odoslané do zariadenia pomocou kábla USB alebo SD karty.

Zariadenie Wanhao Duplicator 4/4x následne zohrieva Wanhao PLA vlákna a vytláča ich von cez trysku vrstvu po vrstve. Táto metóda sa nazýva Výroba cez tavenie vlákien [FFF].

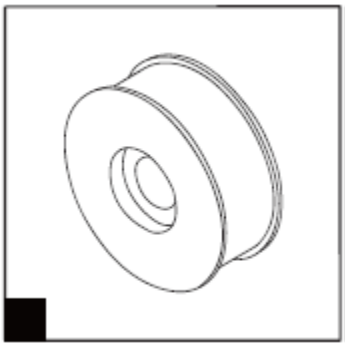


Zariadenie Wanhao Duplicator 4/4x bolo starostlivo vytvorené zabalené výrobcom Wanhao. Vybalujte ho a nastavujte preto veľmi opatrne.

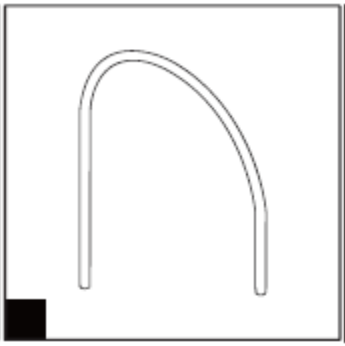


POZNÁMKA: Netlačte ani trhať niečo pri rozbaľovaní nasilu. Môže to poškodiť Wanhao Duplicator 4/4x.

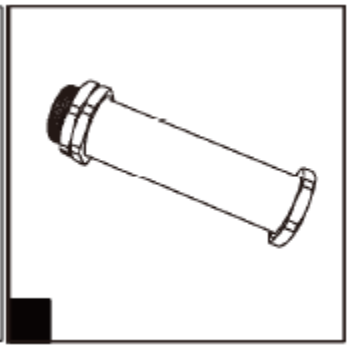
ČO SA NACHÁDZA V KRABICI



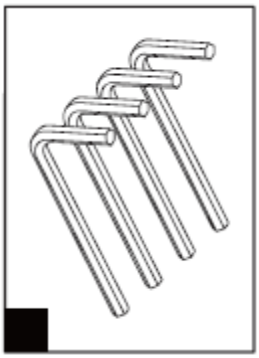
Náplň



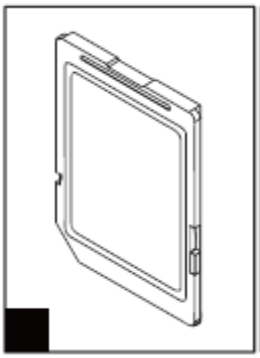
Cievka na vedenie náplne



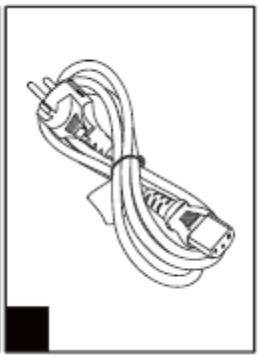
2 ks držiak na cievku



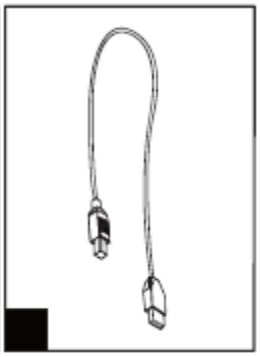
Imbusové kľúče



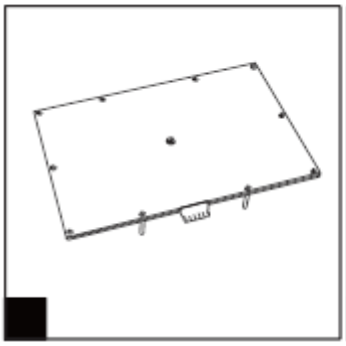
1 ks SD karta



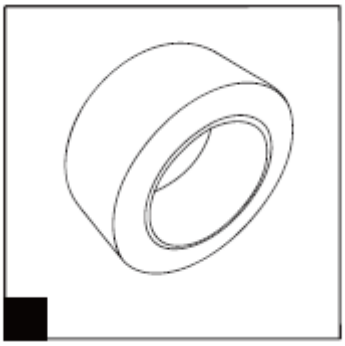
Elektrický kábel



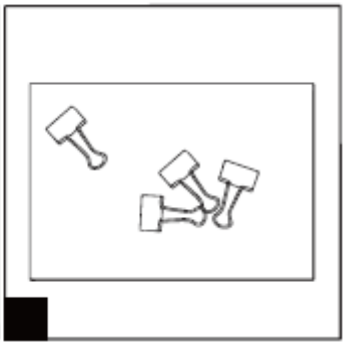
USB kábel



Vyhrievaná podložka



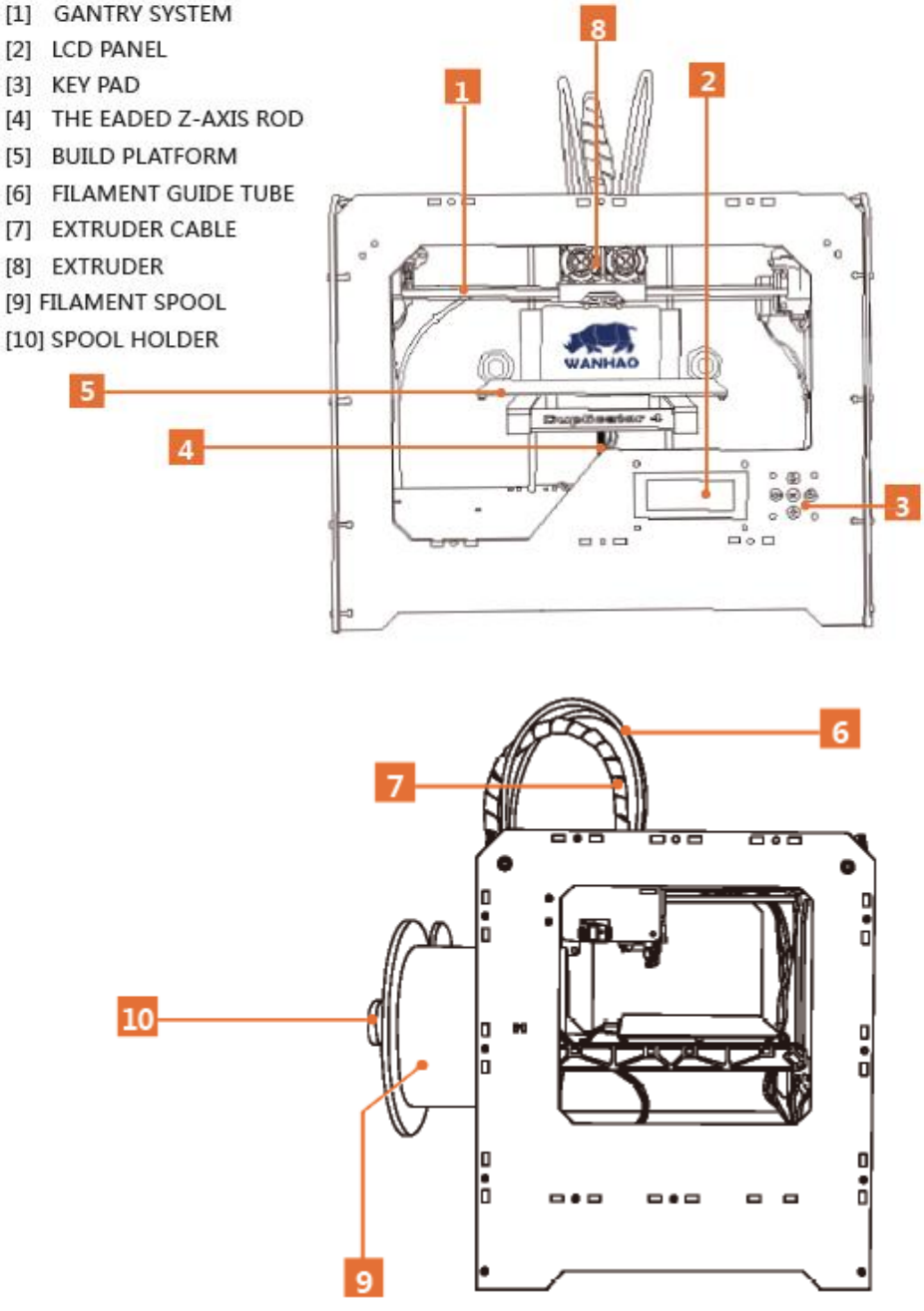
3m pásky



1 ks sklo s klipmi

ŠPECIFIKÁCIE

[1] Gantry SYSTÉM
[2] LCD PANEL
[3] klávesnice
[4] EADED Z-AXIS ROD
[5] Zostaviť Platform
[6] nekonečných vlákien vodiacej trubke
[7] extrúdery CABLE
[8] extrudéry
[9] FILAMENT SPOOL
[10] SPOOL HOLDER



OTVORENIE ZARIADENIA WANHAO DUPLICATOR 4/4x

1. Otvorenie krabice

A. Umiestnite krabicu s Wanhao Duplicatorom 4/4x na zem. Otvorte krabicu odstránením horného lepenkého obalu.

B. Vyberte zariadenie Wanhao Duplicator 4/4x

Odporúčame použiť tento návod, aby vás previedol procesom inštalácie. Ak zistíte, že čokoľvek, čo je popísané v manuáli, chýba, napíšte nám na support@wanhao3dprinter.com.

C. Odstráňte ochrannú vrstvu peny.

D. Odstráňte dva ochranné nárazníky umiestnené na bokoch zariadenia.

2. Vybratie zariadenia Wanhao Duplicator 4/4x z krabice

A. Otvorte plastový obal a pevne uchopte rám zariadenia zvonku. Zdvihnite zariadenie z krabice a položte na stabilný povrch.

POZNÁMKA: čierny kábel nekrúťte ani neťahajte.

3. Vybratie príslušenstva

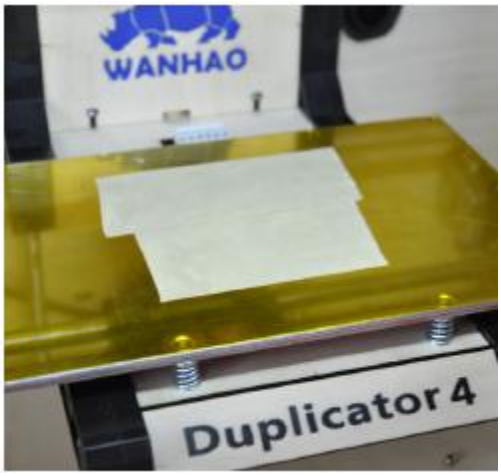
A. Odstráňte zvyšné penové obaly zo spodu krabice.

B. Vytiahnite menšiu krabicu s príslušenstvom, ktorá obsahuje zvyšné položky.

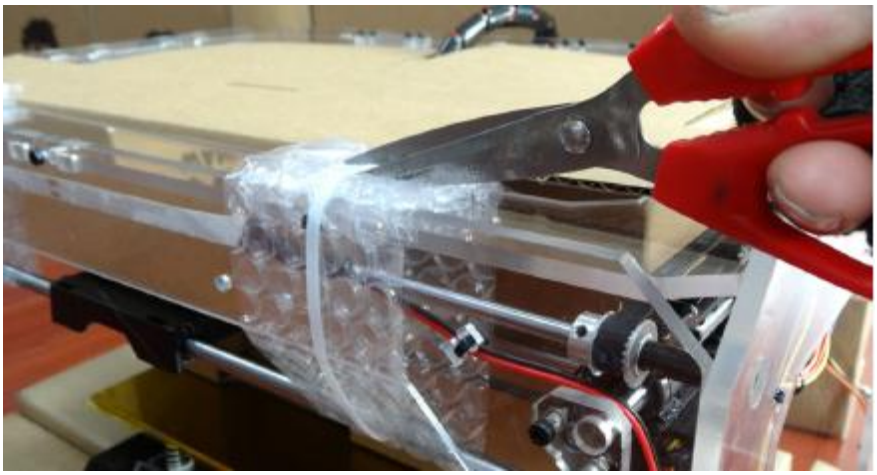
Poznámka: Vaše zariadenie Wanhao Duplicator 4/4x by malo byť teraz úplne rozbalené. Odporúčame vám ponechať si krabicu aj penové obaly pre prípad, že budete chcieť zariadenie v budúcnosti prevážať.

4. INŠTALÁCIA VYHRIEVANEJ PODLOŽKY

Nikdy nestrhávajte žltú foliu, ktorá je na hliníkovej doske. Môžete buď dať silikonové sklo na platformu tavana platna dobre sadla alebo bez silikonoveho skla (odporúčané pre začiatočníkov). Ak pridávate silik. sklo tak nastavte 4 gombíky pod HBP tak aby bola nad urovňou vykurovacej dosky. Wanhao maskovacia páska sa používa ako aj pre ABS aj pre PLA tlač, čo umožňuje lahšiu tlač na platforme.



5. UVOĽNENIE EXTRUDÉRU

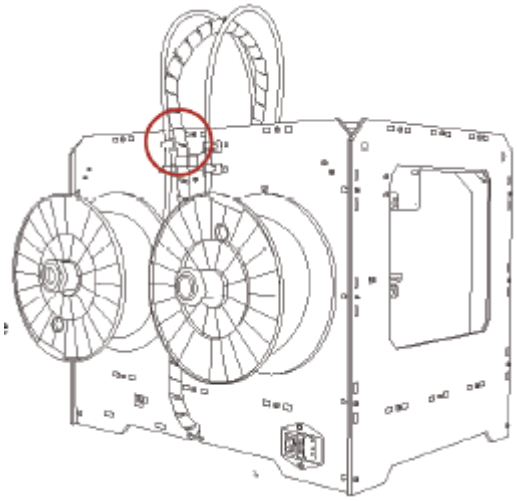


Použite silné nožnice alebo rezač na odstránenie zipsu, ktorý drží pokope portálový systém pokope. Rozstrihnite pásku a plastové kúsky, ktoré sú tam.
Malý plast pripojený k X-pásu a na portálovú tyč zabraňuje pohybu extrudéra. Starostlivo odstráňte tieto kúsky z tyčí a nakloňte ju tak aby skĺzli dolu.

6. INŠTALÁCIA VODIACICH CIEVOK

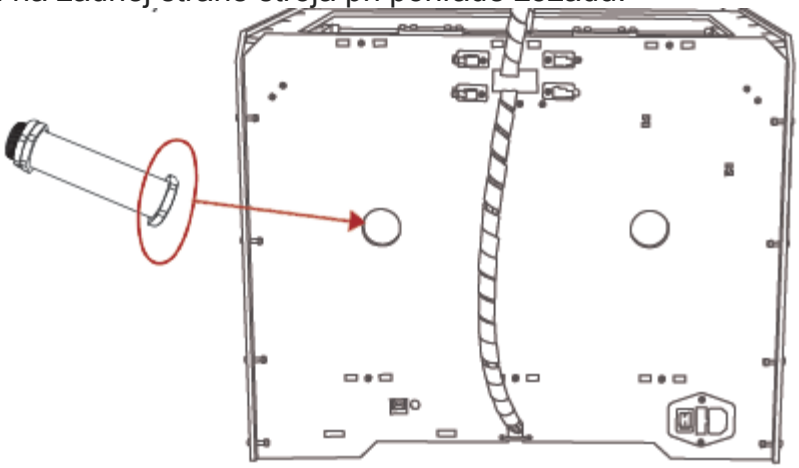
A. Vyhľadajte vlákno vodiacej rúrky. Zasuňte jeden koniec od otvoru na hornej časti extrudéra a zasuňte cievky do takej miery, ako to bude možné.

B. Druhý koniec zasuňte do ľavej časti držiaka vodiacej rúry (pri pohľade zozadu) na zadnej strane stroja. Uistite sa, že koniec vlákna je v jednej rovine s dolným držiakom vodiacej rúrky. Vodiaca cievka by nemala visieť pozdĺž spodnej časti držiaka.



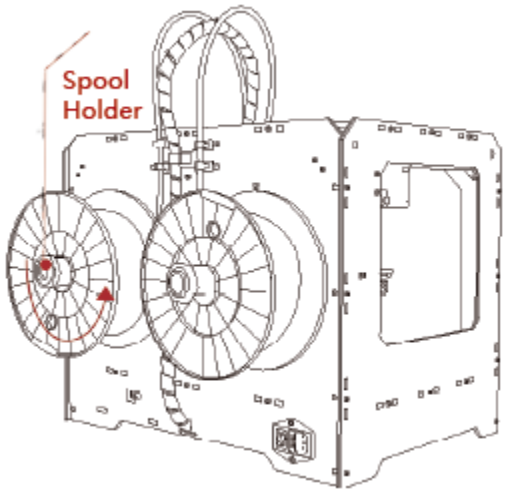
7. INŠTALÁCIA DRŽIAKA CIEVKY

A. Nájdite držiak cievky. Nakloňte držiak a vložte ho guľatým koncom do ľavého bočného otvoru na zadnej strane stroja pri pohľade zozadu.



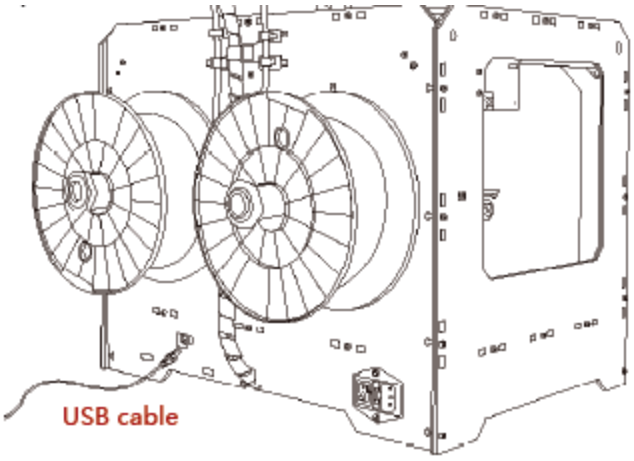
8. MONTÁŽ VLÁKNA S NÁPLŇOU

A. Otvorte krabicu obsahujúcu Wanhao ABS a PLA vlákna. Odstráňte cievku z obalu.
B. Nasaďte cievku na držiak. Uistite sa, že Wanhao ABS A PLA vlákno je proti smere hodinových ručičiek (pri pohľade zozadu). Treba tlačiť na cievku pokiaľ nezapadne.



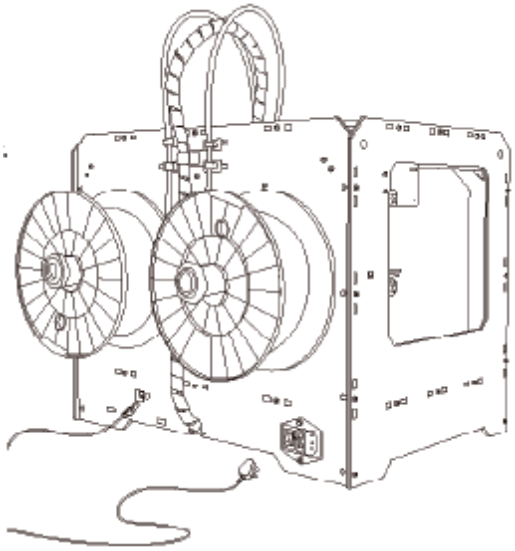
9. PRIPOJENIE USB KÁBLA

A. Vyhľadajte porty USB-A a USB-B. Pripojte kábel USB do USB-B portu na zadnej strane Wanhao. Nedávajte ďalší koniec kábla USB do ničoho ďalšieho. Nezapájajte napájací kábel do elektrickej zásuvku do kroku 11 tejto kapitoly.



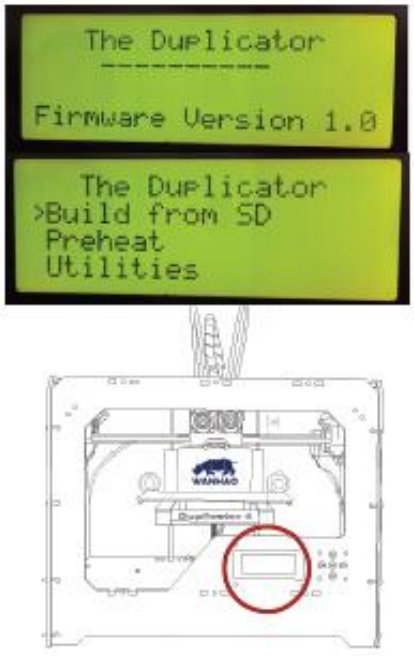
10. PRIPOJENIE ZDROJA NAPÁJANIA

A. Vyhľadajte napájací kábel. Pripojte kábel ku zdroju napájania.
B. Skontrolujte, či je vypínač na Wanhao Duplicator 4/4x nastavená na hodnotu pozície OFF.
C. Pripojte napájací konektor do príkonu na zadnej strane z zariadenia.Uistite sa, že plochá strana konektora je smerom dole.



11. ZAPNUTIE ZARIADENIA

A. Pripojte napájací kábel do elektrickej zásuvky.
B. Nastavte vypínač do polohy ON
C. Wanhao Duplicator 4/4x bude zobrazovať textu na LCD displeji. To je začiatok spúšťacieho skriptu, ktorým sa budete riadiť počas kalibrácie a prvého výtlačku.



ŠTARTOVACIE POVELY: VYROVNANIE DOSKY, NAČÍTANIE VKLÁKNA, TESTOVANIE

Potom, čo zapojíte Wanhao kopírku Desktop Printer na LCD paneli sa rozsvieti a zobrazí text. LCD panel spustí štartovacie povely. Startup Script vás prevedie cez vyrovnanie dosky, načítanie Wanhao PLA vlákna, a vytvorenie prvého výtlačku.

LCD klávesnica

• 4 tlačidlá so šípkami obklopujú centrálne tlačidlo OK. Navigovať a zadávať výber môžete pomocou šípok cez LCD menu.

Šípka vľavo zvyčajne umožňuje vrátiť alebo zrušiť akciu.
• Tlačidlo OK znamená, že tlačiareň pracuje.

Po počiatočnej uvítacej správe na displeji LCD sa zobrazí nasledovné:

1. Display ukazuje na možnosť tlače
   2. Prejdite na Utility a stlačte tlačidlo OK.
   3. Zvoľte túto položku pre spustenie vyrovnania platformy.

Prečo vyrovnávanie je dôležité

• Ak je zostavenie platformy príliš ďaleko od extruderu trysky, alebo ak jedna časť dosky je vo väčšej vzdialenosti od dýzy, než iné časti, vaš výtlačok nemusí presne držať na doske.

• Ak je zostavenie platformy príliš blízko k extruderu trysky, doska môže blokovať PLA vlákno z vytláčania z trysky a môže tiež poškriabať dosku.

• Vyrovnanie dosky často pomôže zabezpečiť, že objekty budú dobre fixované na doske.

Ako vyrovnať vyhrievanú dosku

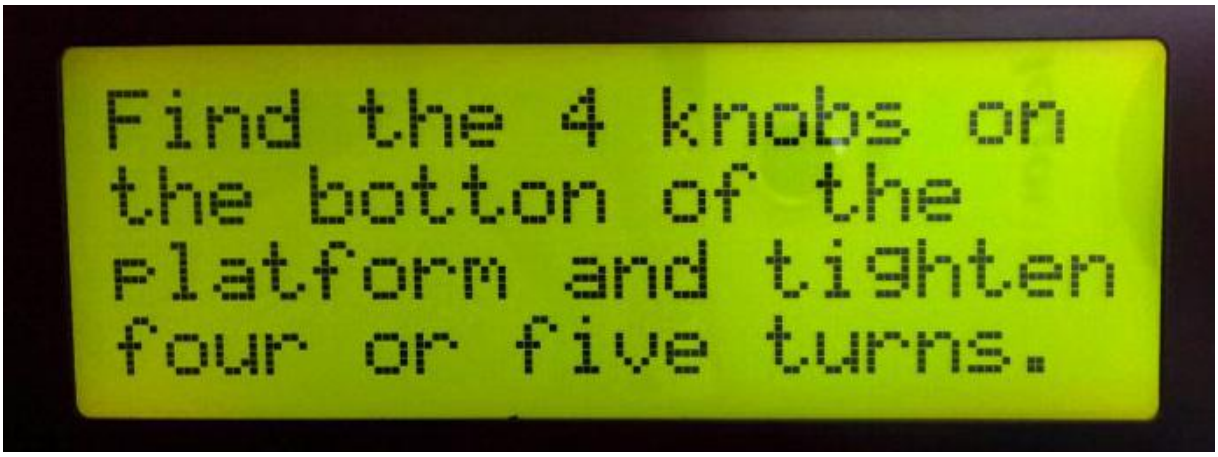
Pre vyrovnanie dosky, musíte nastaviť štyri gombíky, ktoré sú pod platformou. Tieto štyri gombíky znížia a zvýšia dosku.

• Uťahovaním gombíkov [otáčania je vpravo] sa presunie build doska od trysky k extruderu.

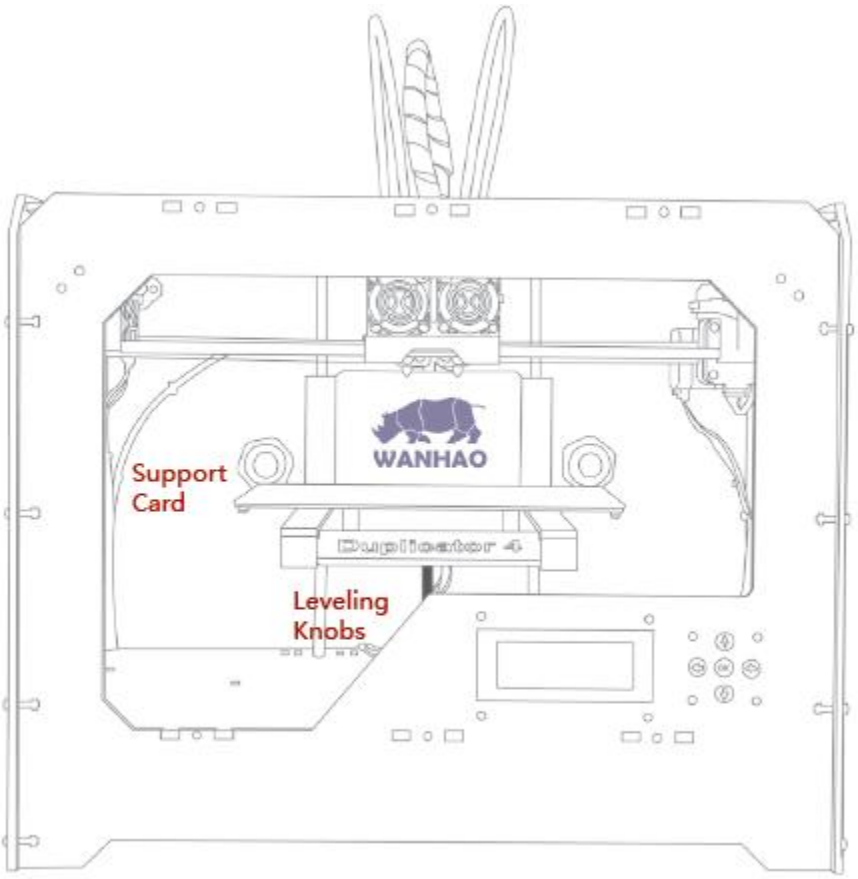
• Uvoľňovaním gombíkov otáčania je vľavo] sa presunie doska bližšie.

• Vzdialenosť medzi vytlačovaciou trysko a dosky by mala byť v hrúbke papiera A4.

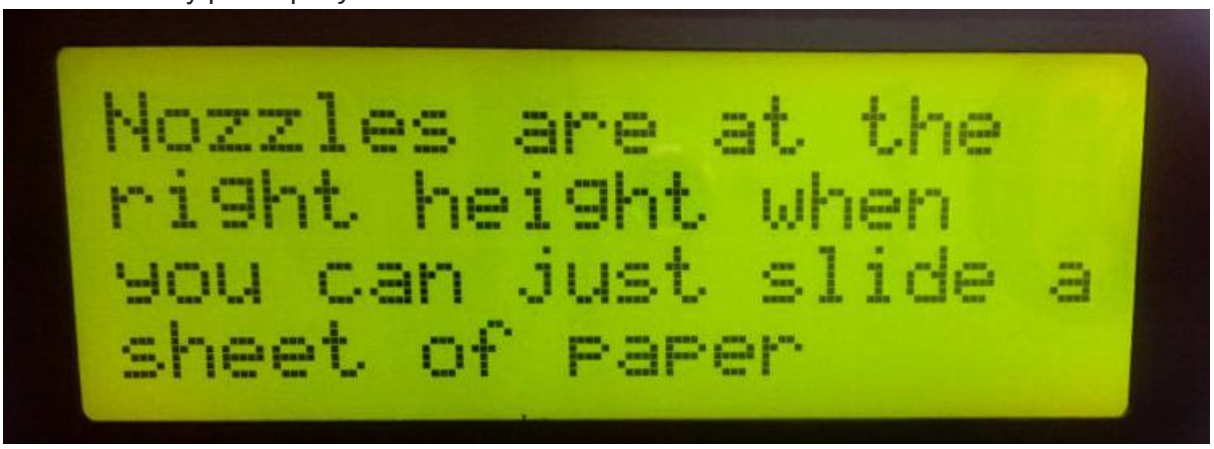
1.Vytvorenie určitého priestoru medzi doskou a tryskami



Ak sa toto zobrazí na displeji tak utiahnite 4 3róby pod platformou cca o 4 otáčky.



Nastavte šróby podľa pokynov

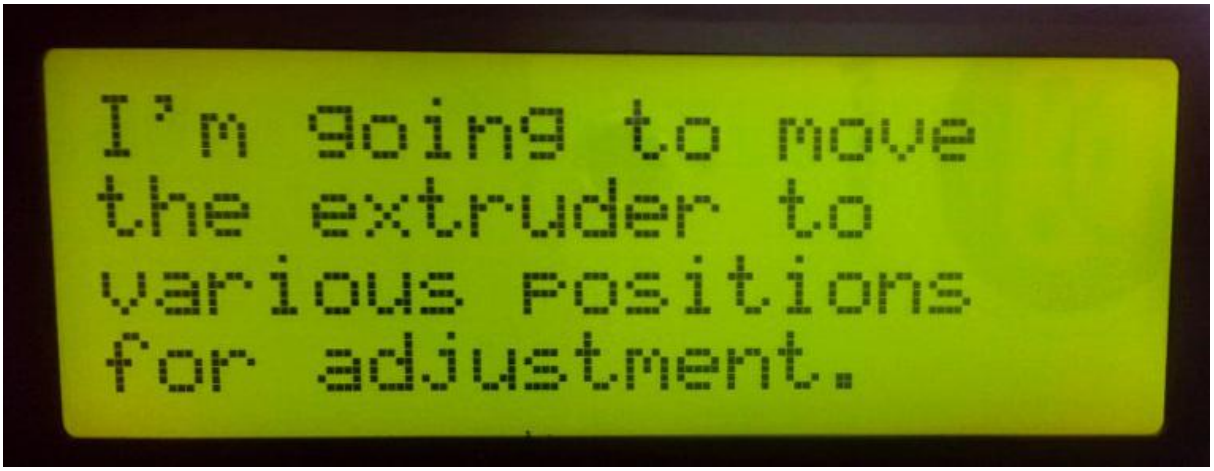


Návod vás vyzve na nastavenie šróbov individuálne. Keď nastavujete každý šróbu, uistite sa, že sa medzi trysky a dosku vmestí papier formátu A4
Mali by ste cítiť nejaké trenie na A4 papier, ale stále má vôľu prejsť pomedzi ne bez znehodnotenia.

Nastavenie šróbu ešte raz

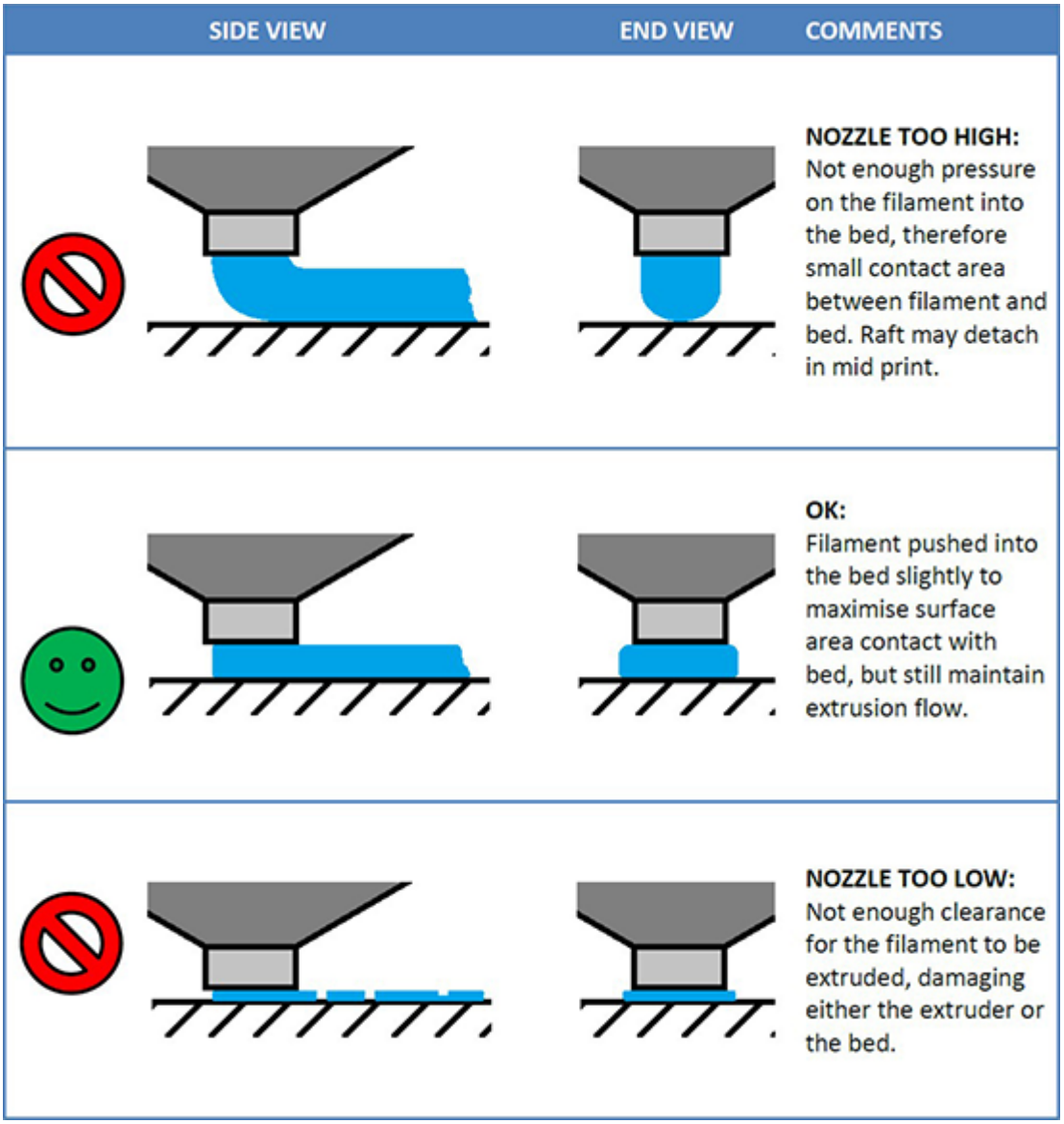
Skript vás vyzve na nastavenie každého šróbu znova. To umožňuje jemné doladenie. Tentoraz A4 Papier by mal kĺzať medzi doskou a tryskou s viac citlivejším trením.

Potvrďte svoju Nastavenie



Po druhej úprave sa tryska presunie do stredu platne. Uistite sa, že sú diapozitívy, A4 papiera medzi tryskou a doskou s miernym množstvom na trenie.

Kontrola výšky trysky podľa diagramu:


SIDE VIEW
END VIEW
COMMENTS
NOZZLE TOO HIGH:
Not enough pressure on the filament into the bed, therefore small contact area between filament and bed. Raft may detach in mid print.
OK:
Filament pushed into the bed slightly to maximise surface area contact with bed, but still maintain extrusion flow.
NOZZLE TOO LOW:
Not enough clearance for the filament to be extruded, damaging either the extruder or the bed.

1. **= tryska príliš vysoko**
2. **= OK**
3. **= tryska je príliš nízko**

Načítanie PLA vlákna

Keď ste dokončili začiatočné úlohy , LCD displej zobrazí nasledujúci text: "Som pripravený." Pred začatím výstavby - tlače, musíte načítať PLA vlákno do extruderu. Extrudér bude ohrievať PLA vlákno a používať roztavený materiál.

Čo budete robiť

Odstráňte koniec vlákna vodiacej rúrky z otvoru v hornej časti extrudéra.

Pretiahnite voľný koniec PLA vlákna z cievky do konca vodidla vlákna kde sa pripojí k zadnej strane tlačiarne

• Zatlačte PLA po celej časti cez vlákno vodiacej rúrky.
• Počkajte kým sa vlákno nahreje a vysunie.

Odpojenie vlákien

Vyhľadajte kde sa viaže vodiaca rúrka vlákna v hornej časti extrudéra.
Musíte odstrániť vodítko vlákna z extrudéra. Ak chcete odstrániť rúrku, jemne ju vytiahnite z otvoru v hornej časti extrudéra.

Zasuňte vlákno prostredníctvom vlákien vodiace rúrky

Uvoľnite koniec PLA z vlákna cievky. S párom nožníc, odrežte čistý okraj. Zasuňte koniec vlákna PLA do konca vodiacej trubice, ktorá je pripojená k zadnej časti tlačiarne. Zasuňte PLA vlákno cez vodiacu rúrku, až kým nevystúpi z druhého konca rúrky.

Stlačte tlačidlo OK pre začatie Kúrenie extrudéra

Potom, čo ste zasunuli PLA vlákno skrz vodiacu rúrku, stlačte tlačidlo OK v ponuke LCD. Kopírka začne ohrievať extrudér.

Stlačte tlačidlo "OK" pre pokračovanie

Keď extrudér dosiahne 220 ° C,naLCD paneli sa zobrazí výzva na vloženie PLA vlákien do extrudéra. Kliknite na tlačidlo na ktoré vás vyzve správa vašej tlačiarne , aby ste stlačili tlačidlo OK, keď sa zobrazí plast pretláčanie.

Zatlačte vlákno do extrudéra

Použite jednu ruku, aby ste zasadili zaťaženie tlačidla nadol a koniec PLA vlákna čo najbližšie k extrudéru a pevne ju zasuňte do otvoru v hornej časti extrudéra. Uistite sa, že vlákno ide do stredu otvoru a nie je na okraji otvoru.

Udržujte tlak vlákna a naďalej tlačte do otvoru.Po piatich sekundách, by ste mali cítiť ťahanie motora. Udržujte tlak po ďalších päť sekúnd a potom pustiť.

Zastaviť Vytláčanie

Pozrite sa na vytlačovaciu trysku. Po niekoľkých momentoch, mali by ste vidieť tenký reťazec vlákna PLA, ktorý sa načítal z trysky. Stlačte tlačidlo OK pre zastavenie tlače.

Vráťte vlákno
Zasuňte vodiaci rúrku do otvoru na hornej strane extruderu.

Odstráňte PLA

Počkajte niekoľko minút, než sa PLA vlákno vychladne, potom ho vytiahnite z trysky. môžete zničiť toto zvláštne vlákno. Nedotýkajte sa trysky; môže byť ešte horúca. Nenechávajte plast na extruderu trysky. Ten môže spôsobiť zlepenie kntryske namiesto vytvorenia.

TEST Z SD KARTY

KOPÍRKA WANHAO obsahuje SD kartu pre výrobu testu zadaného objektu.

Vyberte projekt z SD karty

Potom, čo ste úspešne zostavili Platformu a naložili PLA Filament do extruderu, panel LCD bude hovoriť: Som pripravený

A: Pomocou tlačidiel so šípkami nahor a nadol prechádzajte zoznam modelov na SD card

B: Ak chcete vybrať model, stlačte OK.

C: Tlačiareň začne budovať svoj objekt. Môžete použiť LCD panel na monitorovanie teploty extrudéra a stav a priebeh vášho objectu

C: spustenie

Použitie Wanhao Replicator G

Replicator G je softvér, ktorý pripravuje 3D modely pre vytváranie a posiela ich do 3D Wanhao kopírky Desktop Printer pre výtlačok.

Stiahnuť a nainštalovať WanHao Replicator G.

A: V počítači, na ktorý je napojený Wanhao Duplicator chodte do sekcie browser – vyhladavanie.

B: Z tejto stránky www.wanhao3dprinter.com si stiahnite program a nainstalujte ho .

C: Po stiahnutí otvorte program a nasledujte inštrukcie na nainštalovanie programu do vášho počítača.

D: Pomocou dodaného kábla USB pripojte WanHao kopírku na vaš počítač.

POUŽÍVANIE REPLIKÁTORA

2. Stiahnite si objekt z Wanhao Thingshares

Thingshares je webová stránka, kde WanHao užívatelia môžu zdieľať súbory

Otvorte prehliadač, a zadajte www.thingshares.com. Pomocou vyhľadávacieho poľa na vyhľadáte súbory, ktoré chcete .

V ľavej časti stránky vidíte tlačidlo, ktoré hovorí stiahni, kliknite naň pre stiahnutie.

Otvorte WanHao Replicator G

Priblíženie a oddialenie: Pomocou kolieska na myške môžete približovať a oddialiť obrázok.

Zobraziť: Kliknite na tlačidlo Zobraziť aby ste sa dostali do režimu zobrazenia. V tomto režime, kliknite na tlačidlo a ťahaním myši rotujete dosku a objekt.

Presun: Kliknite na tlačidlo Presunúť Togo do režimu Presunúť. V tomto režime, kliknite a ťahajte myšou objekt tak aby ste ho mohli presunúť okolo dosky.

Otočiť: Kliknite na tlačidlo Otočiť prejsť do režimu obrátiť. V tomto režime, kliknite a ťahajte myšou pre otáčanie objektu vo všetkých smeroch.

Zrkadlo: Kliknite na zrkadlo možnosť aby ste prejšli do režimu Mirror.Tu kliknite na tlačidlá na hornej strane kde máte možnosť obraciať v „reflektore“ X, Y, Z.

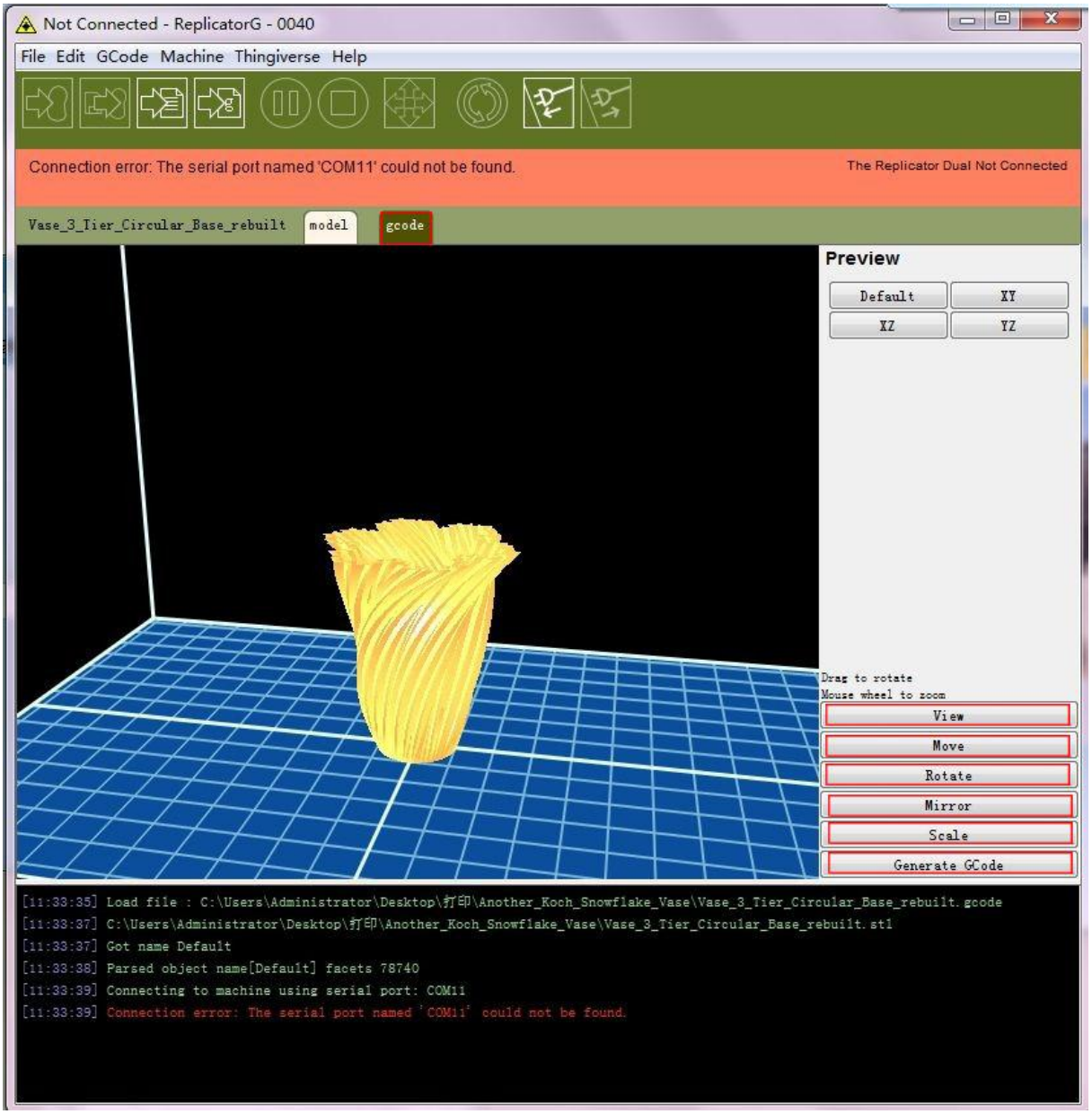
Mierka: Kliknite na tlačidlo Mierka. V tomto režime, kliknite a ťahajte myšou pre zväčšiť alebo zmenšiť váš objekt. Použite na hornej strane tlačidla the Scale otvorte podmenu ChangeDimensions a môžete meniť percento alebo špecifické úpravy.

Generovanie gcode: Kliknite na tlačidlo otvoriť generovať GCodedialog, v ktorom môžete určiť záver tlače a ďalšie možnosti, kliknite na fenerovať gcode pre stavbu.

Kliknite na "gcodeje to 4 možnosť v ponuke a nastavte teplotu HBP tlače na základe vášho tlačového materiálu.

Pozri otázky a odpovede na www.wanhao3dprinter.com.

Po nastavení, vyberte tlač. ABS HBP tlač teplota: 110; PLA HBP teplota tlač 60



Otvorte .stl súbory v Wanhao REPLICATORG

Kliknite na file. Uložte Nájdite súbor .stl a vyberte túto možnosť. Obrázok sa otvorí v strede zostavenie dosky.

Pomocou tlačidiel na ľavej strane nastavujete veľkosti objektu, umiestnenie, atď Potom vygenerujte gcode. Uvidíte generovať gcode dialóg:

Krájanie Profilu: Vyberte Replicatorslicing predvolené, ak už nie je vybratá

Extrudér: Vyberte extruder, ktorý sa chystáte použiť.

Raft: Zvoľte túto možnosť aby bol váš objekt postavený na rafte.

Podpora: Zvoľte túto možnosť, aby ste váš objekt mohli ľahko vymenit v podpornej štruktúry pod previsnutú častí objektu.

Výplň objektu:

Zvoľte túto možnosť, aby mal objekt mieru výplne. Je lepšie mať 10%.

Vrstva výška: Zvoľte túto možnosť na svoju tlač pre určenie kvality tlače.

Počet buniek: Zvoľte túto možnosť a zvoľte č. 1

Posuv (mm / s): Zvoľte túto možnosť pre zmenu rýchlosti tlače: 30 až 80 milimetrov / s

Posuv: Zvoľte túto možnosť a zmente na 70

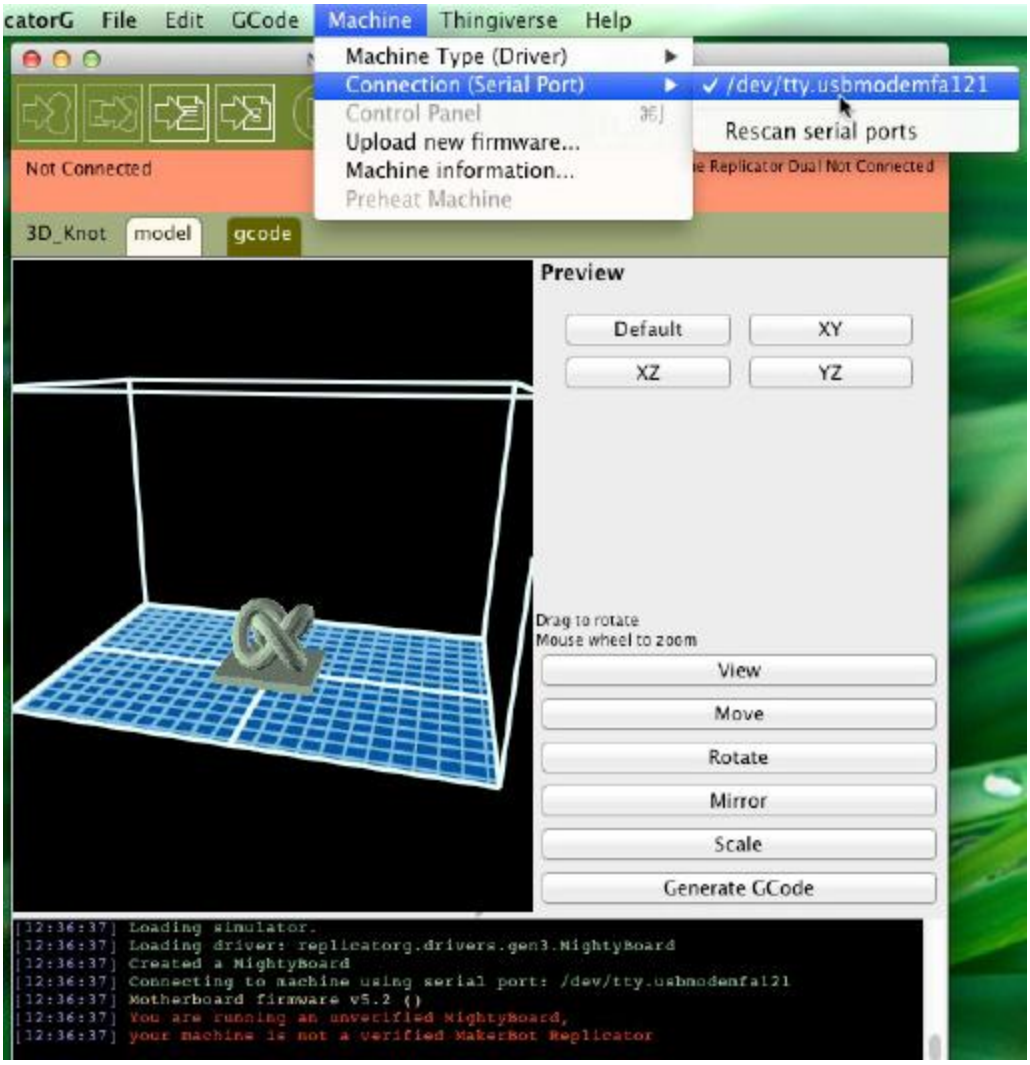
Teplota tlače: Zvoľte túto možnosť a zmente na 220

VYTVORENIE Z SD KARTY

Stlačte tretie tlačidlo v zelenom pruhu "Build to file for use with SK card a uložte súbor ako .x3g formáte na SK kartu. Zadajte názov súboru
Vložte SK kartu do slot otvoru a uložte súbor k tlači.

PRÁCA S PC

Vyberte typ stroja v repklikátore G, potom pripojenie na sériový port. Stlačte pripojiť. Po pripojení tlač.



Táto kapitola popisuje základné riešenie problémov a údržbu pre Wanhao Duplikátor.

Podrobné informácie o pokročilejších problémoch nájdete na stránke

wanhao3dprinter.com/FAQ.